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ABSTRACT

A report of the 1987 National Postsecondary Student Aid Study (NPSAS) focuses on graduate and first-professional students in order to inform policymakers and other interested parties of the NPSAS data and its potential for clarifying policy and research issues surrounding postsecondary education and student financial aid. Seven chapters are: introduction; postsecondary enrollment; postbaccalaureate education expenses; sources and types of aid to postbaccalaureate students; the composition of student aid awards; sources of financial support to postbaccalaureate students; and summary and conclusions. Results include the following: 45% of all postbaccalaureate students were 30 years or older, although 80% of the first-professional students were under 30; the average total expenses related to education for full-time postbaccalaureate students was about $9,300; full-time first-professionals borrowed higher amounts of aid on average than master's or doctoral students; over one-half of the aided master's students enrolled in the fall of 1986 and three-fourths of the aided doctoral students received institutional aid only or federal and institutional aid combined; and the majority of postbaccalaureate students enrolled in the fall of 1986 relied solely on themselves or themselves and financial aid. Four appendices are: additional tables; technical notes; a list of advisors to NPSAS; and classification of instructional programs (CIP) codes. (SM)

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NATIONAL CENTER FOR EDUCATION STATISTICS

Analysis Report March 1989

Student Financing of Graduate and Professional Education

A Report of the 1987 National Postsecondary Student Aid Study

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Linda Zimbler
Postsecondary Education Statistics Division

with assistance from Samuel Barbett, Senior Systems Analyst

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Foreword

Student financial aid programs, both Federal and non-Federal, have played an important role in postsecondary education. Policymakers at Federal, State, and institutional levels need information on the distribution of financial aid, the nature of aid packages, the profile of aid recipients, the pattern of financing postsecondary education, and the impact of financial aid program changes on students, their families, and postsecondary institutions. To meet this need for information, the National Center for Education Statistics in the Office of Educational Research and Improvement, with assistance from other components of the U.S. Department of Education (including the Office of Postsecondary Education, the Office of Planning, Budget, and Evaluation, and the Office of Management), the Congressional Budget Office, and the Office of Management and Budget, launched a comprehensive study on student financial aid: The 1987 National Postsecondary Student Aid Study (NPSAS).

This report on graduate and first-professional students is the second in a series of NPSAS reports prepared by the National Center for Education Statistics staff. Its primary purpose is to inform policymakers and other interested parties of the NPSAS data and the data's potential for clarifying a myriad of policy and research issues surrounding postsecondary education and student financial aid.

NPSAS provides the financial aid community and other interested researchers with a totally new perspective on the cost and financing of a postsecondary education. Whereas previous work has relied on Federal financial aid program data or State-specific data, this new perspective derives from consistent and comprehensive data collected for a nationally representative sample of students enrolled at a single point in time--the fall of the school year. For individuals who are familiar with, or have used, a traditional approach to the study of issues in this area, this new perspective may challenge previous findings and longstanding beliefs.

We hope that the release of this second descriptive report will stimulate discussions on student financial aid issues, particularly as they affect postbaccalaureate students. We also hope it will encourage further reports and more indepth analyses of the data provided by this landmark study.

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The National Postsecondary Student Aid Study (NPSAS) has benefitted from the advice and counsel of many other people and organizations involved with postsecondary education and student financial aid. In acknowledging contributions to the study and to this report, it must be noted that the NPSAS has received broad and continuing support from all sectors of the postsecondary education community, regardless of particular positions on, or opinions of, student financial aid programs. Without such support, this complex and comprehensive study could not have been initiated.

Planning for the 1987 NPSAS began in 1985 when individuals from the U.S. Department of Education and other Federal agencies began discussions on the critical need for data on student financial aid. This group evolved into the NPSAS Federal Steering Committee. This committee guided the study and has been an integral part of it since its beginning. The committee's advice has been invaluable.

A National Advisory Panel was formed to obtain advice and recommendations from representatives of the postsecondary education community outside of the Federal Government. Advisory Panel members' commitment to the study added enormously to its substantive and technical quality. (A list of National Advisory Panel members and the Federal Steering Committee is presented in appendix C.)

Additionally, at several critical points in the study, many individuals participated in working groups that provided expertise in such areas as policy-issue identification, questionnaire design, financial aid practices, and analytic strategies. While too numerous to list separately, we recognize the invaluable contributions of all individuals who took part in these activities.

We also recognize and value the spirit in which advice and recommendations were offered by those from whom such input was sought. They gave their best judgments on various aspects of the study and the problems involved, but in all cases, they left final decisions to the technical staff.

Finally, gratitude is extended to the postsecondary institutions, institutional coordinators, financial aid administrators, and students who participated in the study. Without their cooperation, no study would have been possible.

Executive Summary

Student financial aid is an important concern to policymakers and the general public, particularly in light of the substantial growth in Federal and non-Federal financial aid expenditures over the years. In the 1963-64 academic year, the total amount of Federal, State, and institutional aid awarded to postsecondary students[1] was over one-half billion dollars.[2] By the 1986-87 academic year, the total amount of aid awarded to postsecondary students had grown to over $20 billion, a 36-fold increase in current dollars. The major source of this growth has been the Federal Government. In the 1963-64 academic year, the total amount of Federal aid awarded to postsecondary students was about $200 million. By the 1986-87 academic year, Federal contributions to student aid had grown to more than $15 billion.

With respect to postbaccalaureate students,[3] in 1974 an estimated $1.9 billion in financial aid was awarded to graduate and first-professional students. In contrast, in 1984 an estimated $5.7 billion was awarded to graduate and first-professional students, a 300 percent increase in current dollars; while, in 1986, an estimated 7.3 billion was received by over 760,000 postbaccalaureate students.

Given the magnitude and importance of current financial aid programs, there is little doubt that fundamental questions concerning financial aid must be addressed. Such questions as who receives financial aid and who does not, how financial aid from various sources and of different types is distributed among students, how much financial aid students receive, and what proportion of the total student cost of a postsecondary education does financial aid cover are of critical concern to policymakers and the general public. Moreover, as the size and structure of Federal and non-Federal aid programs change over time, there is an increasing awareness of the need for determining how these changes affect students, their families, and postsecondary institutions.

To obtain data that can address these and other vital issues surrounding the financing of student's postsecondary education, the U.S. Department of Education established the National Postsecondary Student Aid Study (NPSAS). The NPSAS was designed as a consistent, comprehensive, and efficient student-based data system. The first implementation of the NPSAS occurred during the 1986-87 school year. For this 1986-87 study, a sample of students enrolled in postsecondary education institutions in the fall of the school year was selected. The study obtained information on the student's enrollment characteristics, financial aid status, cost of

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[1]Postsecondary students include undergraduates, graduates (master's and doctoral students) and first-professionals (students studying law, theology, chiropractic medicine, dentistry, medicine (MDs), optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine).

[2]The reader is reminded that loans are considered part of financial aid.

[3]Includes students pursuing a graduate (a master's or doctoral) or a first-professional degree.

attendance, and demographic and socioeconomic characteristics. For the first time, estimates of these variables are available for the same population at the same point in time.

Some interesting results from an analysis of the NPSAS data concerning graduate and first-professional students are presented below. In examining these results, one should be cautious on two counts. First, all estimates cited in these highlights and the report are subject to sampling variability. Second, estimates of the number of students who received aid and the distribution of aided students among different types of postsecondary institutions are based on students enrolled in postsecondary education in the fall of 1986, rather than for the entire 1986-87 school year. As a result, some estimates in this report may differ substantially from numbers in Federal financial aid program reports, which present program data for the full financial aid program fiscal year. Thus, in making comparisons between NPSAS and program data, one should note the differences in the time period covered.

Enrollment

- In the fall of 1986, approximately 62 percent of all graduate students were enrolled in public institutions, while most first-professional students (66.5 percent) were enrolled in private, not-for-profit schools (table 2.1).

- Seventy-two percent of all graduate students attended doctoral institutions; only 28 percent attended other 4-year schools (table 2.1). (For the purposes of this report, all postsecondary institutions with a first-professional program are classified as doctoral-level schools; thus, by definition, all first-professional students attend doctoral institutions).

- Of the more than 1.3 million postbaccalaureate students enrolled in the fall of 1986, about 77 percent were graduate students and 23 percent were first-professional students (table 2.1).

- Forty-five percent of all postbaccalaureate students were 30 years old or older; however, 80 percent of the first-professional students were under 30 years old (table 2.3).

- Close to one-half of all postbaccalaureate students were enrolled as part-time students, although this varied by level of study. For example, while 65 percent of all master's students were enrolled part-time, only 7 percent of all first-professional students were (table 2.3).

Education Expenses

To determine postbaccalaureate students' expenses in attending postsecondary institutions in the 1986-87 school year, NPSAS collected a variety of expense variables. Information is presented on total expenses and four components: tuition and fees; food and housing; books and supplies; and other expenses related to the student's attendance in a postsecondary institution (such as transportation, child care, and personal expenses, which were related to the student's attendance in a postsecondary institution).

- The average total expenses directly related to education for full-time postbaccalaureate students was about $9,300; for part-time postbaccalaureate students the average was one-third of that amount ($2,992) (table 3.2).

- Full-time first-professionals' average total expenses directly related to education for the 1986-87 school year approached $13,000, while full-time doctoral students' expenses averaged about $7,000, full-time master's students' expenses were about $6,300, and part-time master's students' expenses averaged less than $3,000 (table 3.2).

- Regardless of the level of study, most of the expenses directly related to education incurred by postbaccalaureate students were attributable to the tuition and fees charged by the institution. This was especially true for full-time first-professionals, whose average tuition and fees of $9,000 represented 70 percent of their total expenses directly related to education (table 3.2).

- The data also indicate that among first-professional students, those majoring in medicine had much higher expenses directly related to education than those majoring in law or theology. The average total expenses directly related to education for full-time medical students at private institutions was about $20,200; whereas, the average for full-time law students at private institutions was about $12,000, and the average for full-time theology students at private institutions was about $7,200 (table 3.3).

Sources and Types of Aid

Postbaccalaureate students receive financial aid from the Federal Government, States, postsecondary institutions, employers, other private organizations, or a combination of these sources. From these sources, students receive different types of aid: fellowships/grants, tuition waivers, assistantships, and loans. The following highlights refer to the distribution and amount of financial aid awarded to graduate and first-professional students enrolled in the fall of 1986, by source or type of aid. (The reader is cautioned that adding across various sources or types of aid will produce percentages greater than 100, because some students received more than one type or source of aid.)

- Fifty-seven percent of all postbaccalaureate students enrolled in the fall of 1986 received financial aid during the 1986-87 school year. Nearly three-quarters of the first-professional and doctoral students received financial aid; whereas, fewer than one-half of the master's students received financial aid during the school year (table 4.1).

- Full-time first-professional and doctoral students received higher amounts of financial aid (both received, on average, about $10,700) than full-time master's students ($7,805) (table 4.2).

- The two largest sources of financial aid to postbaccalaureate students were the student's postsecondary institution and the Federal Government. Over one-third of the postbaccalaureate students enrolled in the fall of 1986 received institutional aid (34.8 percent) and over one-quarter received Federal aid (27.3 percent) in 1986-87. Substantially fewer postbaccalaureate students received State aid (5.9 percent), employer aid (7.4 percent), or aid from other sources (3.8 percent) in the 1986-87 school year (table 4.1).

- The average amount of institutional or Federal aid received by full-time postbaccalaureate students was higher ($6,354 in institutional aid and $7,011 in Federal aid) than the average amount of State ($3,562), employer ($4,023), or other aid ($4,125) (table 4.2).

- Of the postbaccalaureate students enrolled in a postsecondary institution in the fall of 1986, 25 percent received a fellowship/grant, 18 percent received a tuition waiver, 20 percent received an assistantship, and 26 percent received a loan in 1986-87. Twenty-four percent of the postbaccalaureate students received a loan through the Guaranteed Student Loan (GSL) program and 13 percent received some other type of loan (table 4.5).

- Full-time postbaccalaureate students received, on average, about $4,800 in fellowship/grant aid, $3,600 in tuition waivers, $4,600 in assistantships and $7,900 in loan aid. The average amount borrowed by postbaccalaureate students through the GSL program was about $5,100 (table 4.6).

- Sixty-three percent of the first-professional students enrolled in the fall of 1986 received some type of loan during the school year (57.5 percent received a GSL), while only 16 percent of the master's or doctoral students received loans in 1986-87 (table 4.5).

- Full-time first-professionals borrowed higher amounts of aid, on average ($9,458 for any loans and $5,489 in GSLs), than master's ($5,264 for any loans and $4,436 in GSLs) or doctoral students ($4,999 for any loans and $4,580 in GSLs) (table 4.6).

The Composition of Student Aid Awards

The preceding highlights describe how a single source or type of aid was distributed among postbaccaluareate students enrolled in the fall of 1986. Any student who received more than one type of aid or aid from more than one source was counted more than once in the distribution. Using the NPSAS data, it is possible to determine unduplicated combinations of sources and types of awards that students received. The following highlights are based on unduplicated counts of aid awards:

- Over one-half of the aided master's students enrolled in the fall of 1986 (51.6 percent) and three-fourths of the aided doctoral students (74.8 percent) received institutional aid only or Federal and institutional aid combined (table 5.1).

- The most common source of financial aid for aided first-professional students enrolled in the fall of 1986 was from the Federal Government only or from the Federal Government and institutions only. Thirty-five percent of aided first-professionals received aid only from the Federal Government and 24 percent received aid only from the Federal Government and institutions combined (table 5.1).

- While close to one-half of the aided first-professional students enrolled in the fall of 1986 relied on loans as their only source of financial aid (46.1 percent), only 14 percent of the aided master's students and 6 percent of the aided doctoral students relied solely on loans to help meet education expenses (table 5.2).

- In 1986-87, the average amount of aid for full-time first-professional students who received aid only through loans was $9,100, while the average amount of aid for full-time master's and doctoral students who received only loans was about $5,100 (table 5.2).

Sources of Financial Support

The previous set of highlights focused on student financial aid as a source of financial support. Other sources available to students for financing their postbaccalaureate education include the students themselves (and their spouses) and their families (parents, other relatives, and friends). The following highlights examine these sources of financial support individually, in combination with one another, and in combination with student financial aid.

- The majority of postbaccalaureate students enrolled in the fall of 1986 relied solely on themselves (27.4 percent) or themselves and financial aid (25.9 percent) to finance their education in 1986-87 (table 6.1).

- For master's students enrolled in the fall of 1986, the most common source of financial support was self-support (36.9 percent); however, only 8 percent of the youngest master's students (23 or younger) relied solely on themselves to meet education expenses. Instead, younger students tended to depend on a combination of all sources of support (i.e., financial aid, parents/relatives, and themselves) (33.6 percent) (table 6.2).

- For doctoral students enrolled in the fall of 1986, the most common source of support was a combination of self-support and some type of financial aid (35.7 percent) (table 6.2).

- For first-professional students enrolled in the fall of 1986, the most common combination of support was support from all sources (i.e., financial aid, parents/relatives, and the students themselves) (32.3 percent); however, the most common forms of support for older students (40 years old or older) and married students were themselves, themselves and some type of financial aid, or financial aid only (table 6.2).

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Chapter 1: Introduction

Student financial aid is an important concern to policymakers and the general public, particularly in light of the substantial growth in Federal and non-Federal financial aid expenditures over the years. In the 1963-64 academic year, the total amount of Federal, State, and institutional aid awarded to postsecondary students was over one-half billion dollars.[1] By the 1986-87 academic year, the total amount of aid awarded to postsecondary students had grown to over $20 billion, a 36-fold increase in current dollars.[2] The major source of this growth has been the Federal Government. In the 1963-64 academic year, the total amount of Federal aid awarded to students enrolled in postsecondary education was about $200 million.[3] By the 1986-87 academic year, Federal contributions to student aid had grown to more than $15 billion.[4]

Financial aid to graduate and first-professional students grew from an estimated $1.9 billion in 1974 to an estimated $5.7 billion in 1984, a 300 percent increase in current dollars. During this time, loans were the primary source of increased financial assistance.[5]

Given the magnitude and importance of current financial aid programs, there is little doubt that fundamental questions concerning financial aid must be addressed. Such questions as who receives financial aid and who does not, how is financial aid from various sources and types distributed among students, how much financial aid do students receive, and what proportion of the total cost of a postsecondary education does financial aid cover are of critical concern to policymakers and the general public. Moreover, as the size and structure of Federal and non-Federal aid programs change over time, there is an increasing awareness of the need for determining how these changes affect students, their families, and postsecondary institutions.

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[1]The Washington Office of the College Board, Trends in Student Aid: 1963 to 1983, December 1983, p. 5.

[2]The Washington Office of the College Board, Trends in Student Aid: 1980-1987, November 1987, p. 6.

[3]Trends in Student Aid: 1963-83, December 1983, p. 5.

[4]Measured in terms of current dollars, financial aid awarded to students has increased over the years; however, in inflation-adjusted terms, the real value of student aid awards has declined since 1981. (The Washington Office of the College Board, Trends in Student Aid: 1980-1987, November 1987, pp. 6-7.)

[5]Measured in terms of constant dollars, financial aid expenditures increased about 40 percent during this time. However, non-loan aid to postbaccalaureate students actually dropped 10 percent in constant dollars between 1974 and 1984. (Arthur M. Hauptman, Students in Graduate and Professional Education: What We Know and Need to Know, The Association of American Universities, 1986, p. xii.)

In 1985, in recognition of the urgency of these questions and the lack of national data available to provide answers, the U.S. Department of Education established the National Postsecondary Student Aid Study (NPSAS). The NPSAS, implemented for the first time in the 1986-87 school year, is a national, student-based data system that examines financial aid from the perspective of the individual student.

With its focus on individual students, the NPSAS is able to provide consistent data for the study of postsecondary education financing and student financial aid. (In the 1987 NPSAS, students enrolled in the fall of 1986 were sampled.) The study identifies students enrolled in postsecondary education and obtains information on their enrollment characteristics, financial aid status, student-reported and institution-determined costs of attendance, and demographic and socioeconomic characteristics. Thus, estimates of these parameters are available for the same population at the same point in time.

The 1987 NPSAS collected information on financial assistance awarded to undergraduate, graduate, and first-professional students who were enrolled in school in the fall of 1986. Financial aid data were collected on both full- and part-time students enrolled in public and private 4-year colleges and universities. These data were collected from institutions and the students. Additional information was collected on students concerning student enrollment status (from institutional registration records) and their personal and financial characteristics. (For a more complete description of the NPSAS, see appendix B.)

Interpreting the 1987 NPSAS Data

In interpreting the data in this report, two aspects of the design of the 1987 NPSAS must be considered. First, to meet the vast data needs of the study most efficiently, the NPSAS relies on the use of sampling techniques. Thus, the students identified for the study are a nationally representative sample of postbaccalaureate students enrolled in 4-year colleges or universities. Because of the use of sampling, the estimates provided are subject to sampling reliability. (For a complete description of sampling techniques and generalized estimates of the magnitude of the sampling variability, see appendix B). Secondly, while the use of the fall enrollment period as the time reference for the 1987 NPSAS provides a consistent reference point with other national studies of postsecondary education, it does not represent all students who enrolled in a postsecondary institution during the entire 1986-87 school year. In fact, only about 70 percent of all students who attended a traditional 4-year college or university were enrolled in the fall. (Estimates of 1986-87 full school-year enrollments, by student level and institutional sector, are available in the technical notes, appendix B.)

Because of its fall reference period, estimates from the 1987 NPSAS of the total number of students who received financial aid in 1986-87 and the total amount of aid awarded by a specific financial aid program will differ from financial aid program reports of the same parameters. This occurs because students potentially eligible for student financial aid in the 1986-87 school year who started school after the fall 1986 enrollment period ended or before it began were excluded from the NPSAS study.

In interpreting the results presented in this report, readers should keep these differences in mind, particularly when examining totals across institutional sectors. These totals refer only to students enrolled in the fall of 1986, as do all statistics found in this report.

Focus of Report

This report is the second major report based on the 1987 NPSAS. The first NPSAS report focused on undergraduate student financing. It indicated that over 45 percent of undergraduate students enrolled in the fall of 1986 received some form of financial aid. Of these, almost 77 percent received Federal aid, with 70 percent of Federal recipients receiving grant aid and 67 percent receiving Federal loans. This report focuses on a description of the postbaccalaureate[6] student population in the fall of 1986, their education expenses, and the means by which they financed their postbaccalaureate education. Specifically, chapter 2 compares selected personal and enrollment characteristics of graduate and first-professional students enrolled in the fall and compares them to undergraduate students; chapter 3 looks at costs related to enrollment in a postbaccalaureate program and total living expenses as reported by postbaccalaureate students; chapter 4 discusses various sources and types of financial assistance to postbaccalaureate students; chapter 5 presents information on the composition of student aid awards; chapter 6 looks at the sources of financial support for financing postbaccalaureate students' education; and chapter 7 presents a summary of the findings in this report.[7]

This report is based only on graduate and first-professional students who responded to the student questionnaires (73 percent of those sampled). Additionally, although financial aid office record data were collected for all sampled postbaccalaureate students, the cost and financial aid data for this report were developed primarily from student-reported data. The technical notes, appendix B, describe the validity of these student-reported data and presents a rationale for their use.

All differences specifically cited in this report are statistically significant at the 0.05 level.[8] Information regarding the reliability of the data is presented in the technical notes, appendix B, section III.

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[6]The postbaccalaureate population as defined in NPSAS includes students for whom a postbaccalaureate degree (master's, doctoral, or first-professional) objective could be identified either through institutional records or student self-report data.

[7]The intent of this report is to describe selected results related to postbaccalaureate education expenses and education financing. Researchers interested in conducting further analyses in this area should obtain the NPSAS Public Use Data Files.

[8]Estimates are assumed to be independently distributed and two-tailed tests have been applied. The jackknife procedure was employed to produce estimates of the variances of the statistics presented in this report.

Chapter 2: Postsecondary Enrollment

Enrollment, by Control and Level of Institution[1]

Since the early 1970s, enrollments in higher education institutions have increased dramatically. Between 1970 and 1986, total fall enrollments in higher education have increased 45 percent. The greatest increase occurred in 2-year institutions, where enrollments more than doubled during this time period. Public institutions have consistently attracted the majority of students over this 16-year period, with enrollment rates approximately three times greater than those at private institutions.[2] The enrollment data are presented in the chapter to provide a basis for understanding and assessing student financial aid participation patterns.

Table 2.1 shows the distribution of students attending a postsecondary institution by level of study and control and level of institution in the fall of 1986.[3] Table 2.1 indicates that over 12.5 million students were enrolled in the Nation's postsecondary institutions. Three-fourths of these students (74.2 percent) were enrolled in public institutions; 21 percent were enrolled in private, not-for-profit institutions; and 5 percent in private, for-profit institutions. Looking at enrollment by level of institution, approximately 36 percent of postsecondary students attended 2-year institutions, 35 percent attended doctoral institutions, 25 percent attended other 4-year institutions, and 4 percent attended less-than-2-year institutions.

Looking at enrollment by level of study, table 2.1 indicates that in the fall of 1986, over 11 million undergraduate students were enrolled in postsecondary institutions. Three-fourths of these students (76.4 percent) attended public institutions; 18 percent attended private, not-for profit institutions; and 5 percent attended private, for-profit institutions. Similarly, most graduate students (62.2 percent) attended public institutions. In contrast, two-thirds of first-professional students (66.5 percent) attended private, not-for-profit institutions.

Table 2.1 also indicates that approximately 40 percent of the

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[1]Definitions of how institutions are classified by control and level are available in the technical notes, appendix B, section VI.

[2]Changes in enrollment data are reported for only institutions of higher education, because total postsecondary education enrollment data were not collected until fall 1986. U.S. Department of Education, Center for Education Statistics, The Condition of Education: A Statistical Report, 1987, p. 120.

[3]Estimates of enrollment in postsecondary institutions are based upon the NPSAS universe of institutions and students. Total enrollment statistics are available from the National Center for Education Statistics IPEDS/HEGIS data files. Comparisons of the NPSAS and IPEDS/HEGIS enrollment figures can be found in the technical notes, appendix B, section IV.

Table 2.1--Students enrolled in a postsecondary institution in the fall of 1986, by level of study and control and level of institution

Control and level of institution	All students*	Level of study				
		Undergraduate	Graduate			First-professional
			Total	Master's	Doctoral	
	Number of students					
Total	12,579,743	11,213,432	1,036,823	852,340	184,483	303,256
	Percent					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Public	74.2	76.4	62.2	61.9	63.7	33.5
4-year doctoral	25.2	23.0	44.8	40.7	63.7	33.5
Other 4-year	14.8	15.0	17.4	21.2	0.0	0.0
2-year	33.2	37.3	0.0	0.0	0.0	0.0
Less than 2-year	1.0	1.2	0.0	0.0	0.0	0.0
Private, not-for-profit	21.0	18.2	37.8	38.1	36.3	66.5
4-year doctoral	10.0	6.9	27.2	25.2	36.3	66.5
Other 4-year	9.8	10.0	10.6	12.9	0.0	0.0
2-year	1.1	1.2	0.0	0.0	0.0	0.0
Less than 2-year	0.1	0.1	0.0	0.0	0.0	0.0
Private, for-profit	4.8	5.4	0.0	0.0	0.0	0.0
2-year and above	1.8	2.0	0.0	0.0	0.0	0.0
Less than 2-year	3.0	3.4	0.0	0.0	0.0	0.0

* Includes students whose level of study was unclassified or missing.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

undergraduates attended 2-year institutions, 30 percent attended doctoral institutions, and 25 percent attended other 4-year institutions. Most graduate students (72.0 percent) attended doctoral institutions; only 28 percent attended other 4-year schools. Since any postsecondary institution with a first-professional program is classified by NCES as a doctoral-level school, all first-professional students attended doctoral institutions.

Enrollment, by Selected Student Characteristics

Table 2.2 examines the distribution of students attending a postsecondary institution, by level of study and selected student characteristics. The particular characteristics presented in table 2.2 were selected to reflect the demographic characteristics of enrolled students and to compare undergraduate and postbaccalaureate students by characteristics of interest in the public policy area. The data show that in the fall of 1986, a greater percentage of the postsecondary population was female (54.5 percent) than male (45.5 percent), and that approximately 45 percent of the total postsecondary population was 24 years old or older. The data also show that most postsecondary students were white (78.3 percent), most were not married (73.4 percent), and the majority attended school full time (61.2 percent).

The data also indicate that among undergraduates enrolled in the fall of 1986, 62 percent attended school full time, 50 percent lived off campus (not with parents), 62 percent were dependent,[4] and although the majority of the undergraduates were 23 years old or younger (60.3 percent), about one-quarter were 30 years old or older. Among graduate students, 61 percent attended school part time, 84 percent lived off campus (not with parents), 72 percent were independent, and 52 percent were 30 years old or older. Among first-professional students, almost all attended school full time (93.4 percent), 69 percent lived off campus (not with parents), 62 percent were male, and 54 percent were dependent (table 2.2).

These data clearly suggest that enrollment patterns and personal characteristics vary by the student's level of study. For this reason, the rest of this report will focus on graduate and first-professional students only. A separate NPSAS report describes the costs and financing of postsecondary education for undergraduate students.[5]

Enrollment Characteristics of Postbaccalaureate Students

Table 2.3 examines the distribution of postbaccalaureate students by level of study, selected student characteristics, and control and level of

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[4]Student dependency status is based on Federal financial aid program definitions in force in the fall of 1986.

[5]U.S. Department of Education, National Center for Education Statistics, Undergraduate Financing of Postsecondary Education: A Report of the 1987 National Postsecondary Student Aid Study, May 1988.

Table 2.2--Students enrolled in a postsecondary institution in the fall of 1986, by level of study and selected student characteristic

Selected student characteristic	All students 1/	Level of study				
		Undergraduate	Graduate			First-professional
			Total	Master's	Doctoral	
	Number of students					
Total	12,579,743	11,213,432	1,036,823	852,340	184,483	303,256
	Percent					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Gender						
Male	45.5	44.9	46.9	44.4	58.5	62.5
Female	54.5	55.1	53.1	55.6	41.5	37.5
Race/ethnicity						
American Indian	0.9	1.0	0.5	0.5	0.2	0.5
Asian American	5.4	5.1	8.7	7.2	15.3	5.3
Black, non-Hispanic	8.9	9.3	5.6	5.6	5.5	3.9
Hispanic	6.5	6.8	4.0	4.0	4.2	4.7
White, non-Hispanic	78.3	77.8	81.2	82.6	74.8	85.6
Age						
23 or younger	55.2	60.3	9.2	9.6	7.2	27.0
24-29	19.6	16.9	38.3	38.8	36.3	52.6
30 or older	25.2	22.7	52.5	51.7	56.6	20.4
Marital status						
Married	26.6	24.2	51.0	51.1	50.6	29.0
Not married 2/	73.4	75.8	49.0	48.9	49.4	71.0
Attendance status						
Full-time	61.2	62.4	38.9	34.8	58.3	93.4
Part-time	38.8	37.6	61.1	65.2	41.7	6.6
Dependency status						
Dependent	59.1	62.2	27.9	27.9	27.6	53.5
Independent	40.9	37.8	72.1	72.1	72.4	46.5
Housing status						
School-owned	18.9	19.8	7.9	6.4	14.5	23.9
Off-campus, not with parents	53.7	50.4	84.1	84.5	82.0	69.2
With parents	27.4	29.8	8.0	9.0	3.4	6.9

1/ Includes students whose level of study was unclassified or missing.

2/ Includes students who were single, separated, divorced, or widowed.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Table 2.3--Postbaccalaureate students enrolled in the fall of 1986, by level of study, control and level of institution, and selected student characteristic

Selected student characteristic	All postbaccalaureate students	Level of study and control and level of institution										
		Master's students					Doctoral students			First-professional students		
			Public		Private							
		Total	Doctoral	Other 4-year	Doctoral	Other 4-year	Total	Public	Private	Total	Public	Private
		Number of students										
Total	1,340,079	852,340	346,540	180,888	215,047	109,865	184,483	117,528	66,955	303,256	101,528	201,728
		Percent										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Gender												
Male	50.4	44.4	43.9	36.1	53.0	42.9	58.5	54.6	65.3	62.5	59.8	63.8
Female	49.6	55.6	56.1	63.9	47.0	57.1	41.5	45.4	34.7	37.5	40.2	36.2
Race/ethnicity												
American Indian	0.5	0.5	0.4	0.6	0.5	0.9	0.2	0.0	0.5	0.5	0.8	0.3
Asian American	7.9	7.2	8.1	3.7	10.5	4.0	15.3	16.3	13.5	5.3	5.1	5.4
Black, non-Hispanic	5.2	5.6	6.2	6.1	4.8	4.7	5.5	5.8	5.1	3.9	3.9	3.8
Hispanic	4.2	4.0	4.5	5.0	3.0	2.9	4.2	4.6	3.5	4.7	3.5	5.4
White, non-Hispanic	82.2	82.6	80.8	84.7	81.3	87.4	74.8	73.3	77.4	85.6	86.7	85.1
Age												
23 or younger	13.2	9.6	10.0	6.3	13.5	6.1	7.2	5.9	9.4	27.0	26.3	27.3
24-26	25.2	22.4	24.8	17.4	26.1	15.4	16.4	14.7	19.3	38.7	40.2	38.0
27-29	16.3	16.4	17.0	14.9	17.6	14.5	19.9	21.2	17.6	13.9	14.9	13.4
30-34	18.7	19.5	19.5	20.3	18.6	19.6	26.0	27.8	22.7	11.9	12.0	11.9
35-39	12.7	15.0	14.2	19.8	10.8	17.9	14.5	14.9	13.7	5.1	4.2	5.5
40 or older	13.9	17.2	14.5	21.3	13.3	26.6	16.1	15.4	17.3	3.4	2.4	3.9
Marital status												
Married	46.0	51.1	50.2	56.2	43.8	60.0	50.6	51.9	48.4	29.0	31.4	27.7
Not married 1/	54.0	48.9	49.8	43.8	56.2	40.0	49.4	48.1	51.6	71.0	68.6	72.3
Attendance status												
Full-time, full-year	47.6	30.8	37.5	18.1	38.6	16.8	56.0	52.1	63.9	88.9	87.9	89.4
All others												
Full-time, part-year	3.9	4.0	3.9	2.9	5.5	3.6	2.2	1.4	3.8	4.4	4.1	4.6
Part-time, full-year	37.5	49.3	44.1	57.0	45.6	59.3	36.7	40.3	29.5	5.4	6.7	4.9
Part-time, part-year	11.1	15.9	14.4	22.1	10.4	20.3	5.1	6.1	2.9	1.2	1.4	1.1
Dependency status												
Dependent	33.7	27.9	29.2	25.0	32.7	19.8	27.6	29.1	25.1	53.5	46.4	57.1
Independent	66.3	72.1	70.8	75.0	67.3	80.2	72.4	70.9	74.9	46.5	53.6	42.9

Table 2.3--Postbaccalaureate students enrolled in the fall of 1986, by level of study, control and level of institution, and selected student characteristic--continued

Selected student characteristic	All postbaccalaureate students	Level of study and control and level of institution										
		Master's students					Doctoral students			First-professional students		
			Public		Private							
		Total	Doctoral	Other 4-year	Doctoral	Other 4-year	Total	Public	Private	Total	Public	Private
Housing status												
School-owned	11.5	6.4	7.9	3.3	8.7	2.5	14.5	13.8	15.8	23.9	7.2	32.3
Off-campus, not with parents	80.7	84.5	85.4	84.9	81.0	88.2	82.0	83.2	80.0	69.2	86.4	60.5
With parents	7.8	9.0	6.7	11.9	10.3	9.2	3.4	3.0	4.2	6.9	6.3	7.2
Citizenship												
U.S. citizen	91.4	92.0	90.3	96.1	90.6	94.8	80.3	78.2	84.2	96.2	96.8	95.8
Resident alien	3.3	3.2	3.5	1.7	4.0	2.8	5.2	5.4	4.9	2.4	0.9	3.1
Nonresident alien	5.3	4.8	6.2	2.1	5.4	2.4	14.5	16.4	10.9	1.4	2.3	1.0
Field of study												
Arts and humanities	8.3	9.8	8.2	7.6	13.7	10.0	16.4	10.5	27.2	0.0	0.0	0.0
Business	15.2	24.0	17.1	13.9	35.4	38.3	4.3	3.3	6.3	0.0	0.0	0.0
Education	18.4	26.2	23.7	46.3	12.2	33.0	17.6	20.9	11.6	0.0	0.0	0.0
Engineering	4.7	5.9	7.8	3.0	7.5	0.5	7.8	8.8	6.0	0.0	0.0	0.0
Natural sciences 2/	11.9	13.2	17.6	10.4	11.5	6.3	27.6	31.1	21.2	0.0	0.0	0.0
Social sciences	10.1	12.1	14.4	12.6	10.7	6.6	19.6	16.8	24.6	0.0	0.0	0.0
Other	6.4	8.9	11.1	6.3	9.1	5.3	6.7	8.6	3.1	0.0	0.0	0.0
Law	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.0	43.3	36.8
Medicine	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.1	31.7	43.0
Other medical 3/	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.1	25.0	12.9
Theology 4/	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	7.3

1/ Includes students who were single, separated, divorced, or widowed.

2/ Includes students majoring in life sciences, physical sciences, or mathematics.

3/ Includes chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

4/ Theology--as a first-professional field of study--is not offered at public institutions.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center of Education Statistics, 1987 National Postsecondary Student Aid Study.

institution. As shown, of the over 1 million postbaccalaureate students enrolled in the fall of 1986, 45 percent were 30 years old or older, close to one-half were enrolled as part-time students (48.6 percent), and 66 percent were classified as independent.

As might be expected, student enrollment characteristics varied by the type of degree sought. For example, of the master's students enrolled in the fall of 1986, most attended school part-time (65.2 percent), over one-half were female (55.6 percent), and most were working toward a degree in either business or education (24.0 and 26.2 percent, respectively). In contrast, of the doctoral students enrolled in the fall of 1986, more than one-half attended school full time (58.2 percent), over one-half were male (58.5 percent), and were more likely to major in education (17.6 percent) or a natural science (27.6 percent) than any other broad area of study. Similarly, almost all first-professional students attended school full time (93.3 percent) and most were male (62.5 percent). However, unlike most graduate students, the majority of first-professional students were under 30 years old (79.6 percent) (table 2.3).

Generally, postbaccalaureate student characteristics did not vary by type and control of institution. However, it is interesting to note that master's students in public institutions tended to major in education rather than another discipline, while master's students in private institutions were more likely to major in business than any other field of study (table 2.3).

Chapter 3: Postbaccalaureate Education Expenses

The cost to students of attending a postsecondary institution has increased fairly substantially over the last several years, in current and constant dollars.[1] Because income, as measured by median family income or personal disposable income per capita, has increased at a slower rate than postsecondary education expenses,[2] the issue of how much it costs a student to attend a postsecondary institution has become increasingly important to students, their families, and policymakers. To determine students' costs in attending postsecondary institutions in the 1986-87 school year and to establish a base year to study trends in postsecondary education expenses, NPSAS collected information on a variety of expense variables.

For the purposes of this report, information is presented on total expenses and four components: tuition and fees, food and housing, books and supplies, and other expenses. Included in the other expenses component are such items as transportation, child care, and personal expenses. For a detailed explanation of the construction of the variables cited in this chapter, see technical notes, appendix B, section VI.

The tuition and fees expenses used in this report were obtained from institutional records. Institutions were asked to report the tuition and fees charged to the student prior to any discounts or allowances. The books and supplies expenses used in this report were obtained from the students, and represent students' recollections of the amount of money spent during the school year for books and supplies. The food and housing and the other expenses variables used in this report also were obtained from student-reported data. Students were asked to supply two estimates of their expenses: full living expenses and living expenses that they perceived as directly related to their education.[3] Students were asked to provide these two estimates to try and separate school-related expenses from expenses that might have been incurred regardless of whether the student was enrolled in school. Because students' perceptions of expenses may differ depending on their attendance status, the expense variables have been displayed by full-time/part-time status. Additionally, full living expenses and those directly related to the student's education are reported here to give readers a sense of the differences between these perceived costs.

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[1]Michael O'Keefe, "College Costs: Have They Gone Too High Too Fast?" Change (May/June 1986), p. 29.

[2]The Washington Office of The College Board, Trends in Student Aid: 1963 to 1983, December 1983, p. 5, and The Washington Office of the College Board, Trends in Student Aid: 1980-1987, November 1987, pp. 6-7.

[3]NPSAS also collected information on institutional-determined student expenses. However, these data are available only for students who received need-based aid. Since too few postbaccalaureate students receive need-based aid to present reliable estimates on institution-determined expenses, this report focuses on student-reported expenses.

Full Living Expenses

Table 3.1 examines full living expenses for the 1986-87 school year for graduates and first-professionals enrolled in a postsecondary institution in the fall of 1986 by type of expense, attendance status, and control and level of institution. The data in table 3.1 indicate that the average total expenses for the 1986-87 school year for full-time postbaccalaureate students was over $14,000, and for part-time postbaccalaureate students the average total expenses was about $12,000. Looking at total expenses by expense category, the data in table 3.1 indicate that for full-time postbaccalaureate students, tuition and fees and food and housing contributed about the same amount to total expenses (41.7 and 39.0 percent, respectively); whereas, for part-time postbaccalaureate students tuition and fees made up 11 percent of total expenses and food and housing made up 60 percent of the total expenses. The reader is reminded that part-time students are more likely to be older and working; and therefore, more likely to spend more for their food and housing than students attending school full time (table 3.1).

Expenses Directly Related to Education

Table 3.2 presents information on students' perceptions of what it cost them for food and housing and other expenses during the 1986-87 school year that were directly related to their education. The data in table 3.2 indicate that when students reported just their expenses associated with going to school, the average total expenses for the 1986-87 school year declined considerably from the estimates presented in table 3.1. This was especially true for part-time students. The average total expenses directly related to education for full-time postbaccalaureate students was about $9,300 in the 1986-87 school year and the average total expenses directly related to education for part-time postbaccalaureate students was about one-third that amount ($2,992) (table 3.2).

In examining the data in table 3.2, it is useful to keep in mind the attendance status of the graduates and first-professionals enrolled in the fall of 1986. Table 2.2 indicates that almost all first-professional students attended school full time (93.4 percent), most doctoral students attended school full time (58.3 percent), while most master's students attended school part time (65.2 percent).

Full-time first-professionals' average total expenses directly related to education for the 1986-87 school year approached $13,000, while full-time doctoral students' expenses averaged about $7,100, full-time master's students' average total expenses were about $6,300, and part-time master's students' expenses averaged less than $3,000 (table 3.2).

Regardless of the level of study, when only expenses directly related to education were considered, the tuition and fees charged by the institution represented the largest share of expenses incurred by postbaccalaureate students. This was especially true for full-time first-professionals, whose average tuition and fees of $9,000 represented 70 percent of their total education expenses. Full-time doctoral students' average tuition and fees of $3,900 accounted for 56 percent of

Table 3.1--Average amount of total expenses for the 1986-87 school year for postbaccalaureate students enrolled in the fall of 1986, by type of expense, attendance status, level of study, and control and level of institution

Control and level of institution	All expenses		Tuition and fees 1/		Food and housing 2/		Books and supplies 3/		Other expenses 4/	
	Average amount	Percent of total	Average amount	Percent of total	Average amount	Percent of total	Average amount	Percent of total	Average amount	Percent of total
Full-time										
Total postbaccalaureate students	$14,170	100.0	$5,910	41.7	$5,521	39.0	$493	3.5	$2,245	15.8
Total master's	11,596	100.0	3,454	29.8	5,489	47.3	367	3.2	2,286	19.7
Public	9,629	100.0	1,944	20.2	5,207	54.1	313	3.3	2,165	22.5
4-year doctoral	9,973	100.0	2,145	21.5	5,298	53.1	325	3.3	2,205	22.1
Other 4-year	8,381	100.0	1,216	14.5	4,877	58.2	270	3.2	2,019	24.1
Private, not-for-profit	14,887	100.0	5,980	40.2	5,961	40.0	457	3.1	2,488	16.7
4-year doctoral	15,219	100.0	6,393	42.0	5,863	38.5	468	3.1	2,495	16.4
Other 4-year	13,440	100.0	4,182	31.1	6,388	47.5	412	3.1	2,458	18.3
Total doctoral	12,169	100.0	3,936	32.3	5,659	46.5	380	3.1	2,194	18.0
Public	9,920	100.0	2,510	25.3	5,063	51.0	355	3.6	1,992	20.1
Private, not-for-profit	16,182	100.0	6,482	40.1	6,722	41.5	424	2.6	2,555	15.8
Total first-professional	17,368	100.0	8,985	51.7	5,503	31.7	656	3.8	2,224	12.8
Public	10,985	100.0	3,793	34.5	4,574	41.6	613	5.6	2,005	18.3
Private, not-for-profit	20,249	100.0	11,329	55.9	5,922	29.2	675	3.3	2,324	11.5
Part-time										
Total postbaccalaureate students	12,054	100.0	1,376	11.4	7,172	59.5	206	1.7	3,301	27.4
Total master's	11,913	100.0	1,285	10.8	7,154	60.1	186	1.6	3,287	27.6
Public	10,863	100.0	787	7.2	6,724	61.9	172	1.6	3,180	29.3
4-year doctoral	10,610	100.0	941	8.9	6,434	60.6	183	1.7	3,053	28.8
Other 4-year	11,208	100.0	576	5.1	7,120	63.5	158	1.4	3,354	29.9
Private, not-for-profit	13,662	100.0	2,114	15.5	7,872	57.6	210	1.5	3,465	25.4
4-year doctoral	13,683	100.0	2,408	17.6	7,640	55.8	224	1.6	3,411	24.9
Other 4-year	13,629	100.0	1,658	12.2	8,234	60.4	188	1.4	3,550	26.0
Total doctoral	12,154	100.0	1,394	11.5	7,203	59.3	269	2.2	3,289	27.1
Public	11,485	100.0	970	8.4	7,028	61.2	266	2.3	3,220	28.0
Private, not-for-profit	13,968	100.0	2,544	18.2	7,675	54.9	275	2.0	3,474	24.9
Total first-professional	15,248	100.0	3,602	23.6	7,506	49.2	448	2.9	3,692	24.2
Public	13,022	100.0	1,433	11.0	7,449	57.2	477	3.7	3,663	28.1
Private, not-for-profit	16,530	100.0	4,851	29.3	7,539	45.6	431	2.6	3,709	22.4

1/ Institution-reported tuition and fees charged to the student prior to any discounts or allowances.

2/ Student-reported total food and housing expenses.

3/ Student-reported book and supply expenses.

4/ Student-reported total other expenses. Includes commuting costs and other miscellaneous personal expenses.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Table 3.2--Average amount of expenses reported as directly related to education for the 1986-87 school year for postbaccalaureate students enrolled in the fall of 1986, by type of expense, attendance status, level of study, and control and level of institution

Control and level of institution	All expenses		Tuition and fees 1/		Food and housing 2/		Books and supplies 3/		Other expenses 4/	
	Average amount	Percent of total	Average amount	Percent of total	Average amount	Percent of total	Average amount	Percent of total	Average amount	Percent of total
Full-time										
Total postbaccalaureate students	$9,256	100.0	$5,910	63.9	$1,907	20.6	$493	5.3	$945	10.2
Total master's	6,290	100.0	3,454	54.9	1,531	24.3	367	5.8	938	14.9
Public	4,556	100.0	1,944	42.7	1,386	30.4	313	6.9	913	20.0
4-year doctoral	4,801	100.0	2,145	44.7	1,440	30.0	325	6.8	890	18.5
Other 4-year	3,671	100.0	1,216	33.1	1,191	32.4	270	7.4	995	27.1
Private, not-for-profit	9,191	100.0	5,980	65.1	1,773	19.3	457	5.0	981	10.7
4-year doctoral	9,732	100.0	6,393	65.7	1,889	19.4	468	4.8	982	10.1
Other 4-year	6,837	100.0	4,182	61.2	1,265	18.5	412	6.0	978	14.3
Total doctoral	7,072	100.0	3,936	55.7	1,843	26.1	380	5.4	912	12.9
Public	5,604	100.0	2,510	44.8	1,860	33.2	355	6.3	878	15.7
Private, not-for-profit	9,691	100.0	6,482	66.9	1,813	18.7	424	4.4	973	10.0
Total first-professional	12,898	100.0	8,985	69.7	2,294	17.8	656	5.1	963	7.5
Public	6,893	100.0	3,793	55.0	1,593	23.1	613	8.9	894	13.0
Private, not-for-profit	15,608	100.0	11,329	72.6	2,611	16.7	675	4.3	994	6.4
Part-time										
Total postbaccalaureate students	2,992	100.0	1,376	46.0	639	21.3	206	6.9	772	25.8
Total master's	2,732	100.0	1,285	47.0	536	19.6	186	6.8	725	26.5
Public	2,328	100.0	787	33.8	598	25.7	172	7.4	772	33.1
4-year doctoral	2,541	100.0	941	37.0	678	26.7	183	7.2	741	29.1
Other 4-year	2,037	100.0	576	28.3	489	24.0	158	7.7	814	40.0
Private, not-for-profit	3,405	100.0	2,114	62.1	433	12.7	210	6.2	648	19.0
4-year doctoral	3,868	100.0	2,408	62.2	536	13.8	224	5.8	701	18.1
Other 4-year	2,683	100.0	1,658	61.8	272	10.1	188	7.0	565	21.1
Total doctoral	3,948	100.0	1,394	35.3	1,255	31.8	269	6.8	1,030	26.1
Public	3,547	100.0	970	27.4	1,313	37.0	266	7.5	997	28.1
Private, not-for-profit	5,034	100.0	2,544	50.5	1,098	21.8	275	5.5	1,117	22.2
Total first-professional	5,865	100.0	3,602	61.4	854	14.6	448	7.6	961	16.4
Public	3,012	100.0	1,433	47.6	675	22.4	477	15.8	427	14.2
Private, not-for-profit	7,507	100.0	4,851	64.6	957	12.7	431	5.7	1,268	16.9

1/ Institution-reported tuition and fees charged to the student prior to any discounts or allowances.

2/ Student-reported food and housing expenses that were directly related to education.

3/ Student-reported book and supply expenses.

4/ Student-reported other expenses that were directly related to education. Includes commuting costs and other miscellaneous personal expenses.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center of Education Statistics, 1987 National Postsecondary Student Aid Study.

their total education expenses and full-time master's students' average tuition and fees of $3,500 accounted for 55 percent of their total education-related expenses (table 3.2).

Food and housing directly related to education accounted for the next largest share of postbaccalaureate students education expenses. Full-time doctoral students' $1,800 in food and housing costs during the year represented 26 percent of their total education expenses for the year, full-time master's students' $1,500 in food and housing costs represented 24 percent of their total education expenses, and first-professional students' $2,300 in food and housing costs represented 18 percent of their total education expenses for the year (table 3.2).

Regardless of the level of study, books and supplies accounted for the smallest share of postbaccalaureate students total education expenses--about 5 to 7 percent, depending on the level of study and the attendance status. Yet, first-professionals spent almost twice the amount for books and supplies as master's or doctoral students (table 3.2).

Education expenses for the 1986-87 school year for postbaccalaureate students varied substantially by control and level of institution, irrespective of the student's level of study. For example, full-time first-professional students at private institutions average total expenses ($15,608) were more than double their counterparts' expenses at public institutions ($6,893), with most of the difference due to higher tuition and fees. Full-time first-professionals were charged about $11,300 in tuition and fees at private institutions and about $3,800 in tuition and fees at public institutions (table 3.2).

Education Expenses, by Major Field of Study

Table 3.3 provides information on expenses directly related to education, by major field of study, for graduate and first-professional students. Doctoral students were combined with master's students in order to have sufficient data for reporting by detailed major field categories. The data indicate that graduate students majoring in engineering had the highest average total expenses and graduate students majoring in education had the lowest total expenses. Among full-time graduate students attending private institutions, those majoring in engineering averaged $10,800 in total expenses directly related to education during the year, while those majoring in education averaged $7,600 in total expenses directly related to education. A differential in total expenses directly related to education also was observed in public institutions between engineering and education graduate students. Full-time graduate students at public institutions majoring in engineering averaged $6,100 in total expenses, while full-time graduate students at public institutions majoring in education averaged $4,100 in total expenses (table 3.3).

The data also indicate that among first-professional students, those majoring in medicine had much higher education-related expenses than those majoring in law or theology. The average total expenses for full-time medical students at private institutions were about $20,200; whereas, the total education-related expenses for full-time law students at private institutions were about $12,000, and the average total expenses for

Table 3.3--Average amount of expenses reported as directly related to education for the 1986-87 school year for postbaccalaureate students enrolled in the fall of 1986, by type of expense, attendance status, control of institution, and field of study

Control of institution and field of study	All expenses		Tuition and fees 1/		Food and housing 2/		Books and supplies 3/		Other expenses 4/	
	Average amount	Percent of total	Average amount	Percent of total	Average amount	Percent of total	Average amount	Percent of total	Average amount	Percent of total
Full-time										
Total postbaccalaureate students	$9,251	100.0	$5,907	63.9	$1,906	20.6	$493	5.3	$945	10.2
Graduate										
Total	6,494	100.0	3,580	55.1	1,613	24.8	370	5.7	931	14.3
Public	4,836	100.0	2,096	43.3	1,513	31.3	324	6.7	903	18.7
Arts and humanities	5,302	100.0	2,313	43.6	1,606	30.3	395	7.4	988	18.6
Business	4,657	100.0	1,952	41.9	1,553	33.3	374	8.0	778	16.7
Education	4,144	100.0	1,628	39.3	1,283	31.0	270	6.5	963	23.3
Engineering	6,108	100.0	2,679	43.9	2,330	38.1	336	5.5	763	12.5
Natural sciences 5/	5,180	100.0	2,346	45.3	1,771	34.2	287	5.5	777	15.0
Social sciences	4,368	100.0	2,011	46.0	1,028	23.5	345	7.9	984	22.5
Other	5,326	100.0	2,285	42.9	1,634	30.7	360	6.8	1,046	19.6
Private	9,321	100.0	6,111	65.6	1,783	19.1	449	4.8	979	10.5
Arts and humanities	9,141	100.0	6,032	66.0	1,677	18.3	468	5.1	965	10.6
Business	9,799	100.0	6,387	65.2	2,002	20.4	437	4.5	973	9.9
Education	7,622	100.0	4,460	58.5	1,506	19.8	427	5.6	1,229	16.1
Engineering	10,824	100.0	7,101	65.6	2,180	20.1	553	5.1	991	9.2
Natural sciences 5/	9,156	100.0	6,186	67.6	1,693	18.5	360	3.9	917	10.0
Social sciences	8,873	100.0	5,948	67.0	1,471	16.6	515	5.8	940	10.6
Other	9,227	100.0	6,215	67.4	1,712	18.6	425	4.6	875	9.5
First-professional										
Total	12,898	100.0	8,985	69.7	2,294	17.8	656	5.1	963	7.5
Public	6,893	100.0	3,793	55.0	1,593	23.1	613	8.9	894	13.0
Law	5,614	100.0	2,331	41.5	1,759	31.3	524	9.3	1,000	17.8
Medicine	8,049	100.0	5,244	65.1	1,441	17.9	595	7.4	770	9.6
Other medical 6/	7,470	100.0	4,295	57.5	1,504	20.1	784	10.5	887	11.9
Private	15,608	100.0	11,329	72.6	2,611	16.7	675	4.3	994	6.4
Law	12,027	100.0	8,266	68.7	2,154	17.9	573	4.8	1,035	8.6
Medicine	20,158	100.0	15,466	76.7	3,089	15.3	751	3.7	852	4.2
Other medical 6/	12,713	100.0	8,097	63.7	2,383	18.7	826	6.5	1,406	11.1
Theology 7/	7,165	100.0	3,042	42.5	2,569	35.9	464	6.5	1,090	15.2

1/ Institution-reported tuition and fees charged to the student prior to any discounts or allowances.

2/ Student-reported food and housing expenses that were directly related to education.

3/ Student-reported book and supply expenses.

4/ Student-reported other expenses that were directly related to education. Includes commuting costs and other miscellaneous personal expenses.

5/ Includes students who majored in life sciences, physical sciences, or mathematics.

6/ Includes chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

7/ Theology--as a first-professional field of study--is not offered at public institutions.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center of Education Statistics, 1987 National Postsecondary Student Aid Study.

full-time theology students at private institutions were about $7,200. Among first-professionals in public institutions differences in total expenses directly related to education by field of study, while observable, were less dramatic. Full-time medical students' average total expenses at public institutions were about $8,000, while full-time law students' average total expenses directly related to education at public institutions were about $5,600 (table 3.3).[4]

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[4]Theology as a first-professional field of study is not offered at public institutions.

Chapter 4: Sources and Types of Financial Aid to Postbaccalaureate Students

This chapter examines the distribution and amount of financial aid available to postbaccalaureate students who were enrolled in a postsecondary institution in the fall of 1986. These students receive financial aid from a variety of sources. The Federal Government, States, postsecondary institutions, employers, and other sources (e.g., private organizations) provide financial assistance to students attending a postsecondary institution. The type of aid received by these students has been classified into four basic categories for this report: fellowships/grants, tuition waivers, assistantships (including college work-study employment), and loans. For an operational definition of these terms, see appendix B, section VI. The first four tables (4.1-4.4) of this chapter provide information on the percentage of graduate and first-professional students enrolled in the fall of 1986 who were awarded aid and the average amount of aid awarded, by source of aid (Federal, State, institutional, employer, or other) for the 1986-87 school year. The last four tables (tables 4.5-4.8) provide information on the percentage of graduate and first-professional students enrolled in the fall of 1986 who were awarded aid and the average amount of aid awarded, by type of aid (fellowships/grants, tuition waivers, assistantships, or loans) for the 1986-87 school year.

Sources of Student Financial Aid, by Control and Level of Institution

Fifty-seven percent of all postbaccalaureate students enrolled in the fall of 1986 received financial aid during the 1986-87 school year (table 4.1). A higher proportion of full-time postbaccalaureate students received financial aid (75.0 percent) than part-time postbaccalaureate students (41.2 percent) (table A.1). The average amount of aid received by full-time postbaccalaureate students was about $9,600 and the average amount received by part-time postbaccalaureate students was about $5,000 (table 4.2).

The percentage of postbaccalaureate students who received aid varied by the student's level of study. Nearly three-quarters of the first-professional and doctoral students enrolled in the fall of 1986 received financial aid; whereas, fewer than one-half of the master's students received financial aid during the school year (table 4.1). Full-time first-professional and doctoral students received higher amounts of financial aid, on average ($10,717 and $10,762, respectively), than full-time master's students ($7,805) (table 4.2).

Regardless of the degree sought, a higher proportion of postbaccalaureate students received financial aid at private institutions than at public institutions (table 4.1). Postbaccalaureate students received about 50 percent more aid, on average, at private institutions than at public institutions (table 4.2).

The two largest sources of financial aid to postbaccalaureate students were the student's postsecondary institution and the Federal Government. Over one-third of the postbaccalaureate students enrolled in the fall of

Table 4.1--Postbaccalaureate students enrolled in the fall of 1986, by aid status, source of aid, level of study, and control and level of institution

Control and level of institution	Number of students	Nonaided	Source of aid 1/ (in percent)					
			Any aid 2/	Federal	State	Institutional	Employer	Other 3/
Total postbaccalaureate students	1,340,079	43.2	56.8	27.3	5.9	34.8	7.4	3.8
				Master's				
Total	852,340	52.6	47.4	17.0	3.2	28.1	9.7	2.3
Public	527,428	55.2	44.8	14.9	3.4	28.9	7.1	1.6
4-year doctoral	346,540	50.0	50.0	16.6	3.4	33.0	7.4	2.0
Other 4-year	180,888	65.2	34.8	11.5	3.5	21.2	6.3	0.8
Private	324,912	48.3	51.7	20.3	2.9	26.8	14.0	3.5
4-year doctoral	215,047	43.1	56.9	22.9	3.4	32.5	14.0	4.2
Other 4-year	109,865	58.6	41.4	15.3	2.0	15.5	14.1	2.2
				Doctoral				
Total	184,483	27.3	72.7	17.7	3.9	61.6	6.5	2.7
Public	117,528	29.2	70.8	17.3	4.7	60.9	5.8	2.5
Private	66,955	23.9	76.1	18.2	2.5	62.8	7.7	3.0
				First-professional				
Total	303,256	26.4	73.6	62.3	14.5	37.4	1.4	8.7
Public	101,528	27.7	72.3	59.9	12.9	32.6	1.6	9.1
Private	201,728	25.8	74.2	63.5	15.4	39.9	1.3	8.5

1/ Percents added across the various sources may total more than 100 because some students received aid from multiple sources.

2/ Includes students who reported they were awarded aid but were not specific about the source of aid.

3/ Includes aid provided by corporations, unions, foundations, fraternal organizations, community organizations, etc.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Table 4.2--Average amount of aid awarded for the 1986-87 school year to aided postbaccalaureate students enrolled in the fall of 1986, by source of aid, level of study, attendance status, and control and level of institution

Control and level of institution	Any aid	Federal	State	Institutional	Employer	Other*
			Full-time			
Total postbaccalaureate students	$9,602	$7,011	$3,562	$6,354	$4,023	$4,125
Total master's	7,805	4,962	2,735	6,353	3,813	4,375
Public	6,956	4,314	2,547	6,046	--	--
4-year doctoral	7,452	4,523	--	6,596	--	--
Other 4-year	4,706	3,643	--	3,112	--	--
Private, not-for-profit	9,167	5,866	3,031	6,869	4,583	5,337
4-year doctoral	9,916	6,183	3,059	7,439	4,934	5,240
Other 4-year	5,532	4,559	--	3,287	--	--
Total doctoral	10,762	5,795	--	9,180	--	--
Public	9,219	5,125	--	7,731	--	--
Private	13,475	6,899	--	11,697	--	--
Total first-professional	10,717	8,187	3,790	4,322	2,365	3,844
Public	7,969	6,659	2,871	2,411	--	3,650
Private	12,066	8,934	4,171	5,057	--	3,958
			Part-time			
Total postbaccalaureate students	4,989	3,806	2,116	5,774	1,750	4,371
Total master's	4,150	3,530	2,011	4,874	1,730	--
Public	3,982	3,271	--	4,808	729	--
4-year doctoral	4,790	3,539	--	5,949	733	--
Other 4-year	2,585	--	--	2,903	721	--
Private	4,372	3,792	--	5,014	2,457	--
4-year doctoral	4,823	4,108	--	5,279	2,892	--
Other 4-year	3,550	3,152	--	4,389	1,748	--
Total doctoral	8,286	--	--	8,295	--	--
Public	8,084	--	--	7,881	--	--
Private	8,754	--	--	9,453	--	--
Total first-professional	6,462	5,481	--	--	--	--
Public	--	--	--	--	--	--
Private	5,597	5,111	--	--	--	--

--Too few cases for a reliable estimate.

* Includes aid provided by corporations, unions, foundations, fraternal organizations, community organizations, etc.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

1986 received institutional aid (34.8 percent) and over one-quarter received Federal aid (27.3 percent) in 1986-87. Substantially fewer postbaccalaureate students received State aid (5.9 percent), employer aid (7.4 percent), or aid from other sources (3.8 percent) in the 1986-87 school year (table 4.1).[1] The average amount of institutional or Federal aid received by full-time postbaccalaureate students was higher ($6,354 in institutional aid and $7,011 in Federal aid) than the average amount of State ($3,562), employer ($4,023), or other aid ($4,125) (table 4.2).

The source of aid varied considerably by the degree the student was pursuing. A higher proportion of doctoral students received institutional aid (61.6 percent) than first-professional (37.4 percent) or master's students (28.1 percent), while first-professional students tended to receive Federal aid more frequently (62.3 percent) than either doctoral (17.7 percent) or master's students (17.0 percent) (table 4.1 and figure 4.1).

The average amount of aid received by these postbaccalaureate students from the various sources also varied by level of study. Full-time doctoral students received about $9,200 in institutional aid for the 1986-87 school year; whereas, full-time master's received about $6,400 in institutional aid, and full-time first-professionals received about $4,300 in institutional aid. On the other hand, full-time first-professional received more Federal aid ($8,187) than full-time doctoral ($5,795) or master's students ($4,962) (table 4.2 and figure 4.2).

Sources of Student Financial Aid, by Selected Student Characteristics

It is important to keep in mind in any discussion of financial aid to postbaccalaureate students that some financial aid is awarded on the basis of need--this is especially true for Federal aid--and some is awarded on the basis of merit. A student's need is a function of his/her financial resources or those of his/her family, and the cost of attendance. Thus, while financial aid data are presented by selected student characteristics, differences in the patterns of financing a postsecondary education that are observed among students with differing personal characteristics may be related to their level of need rather than a particular personal attribute.

Tables 4.3 and 4.4 provide information on the percentage of postbaccalaureate students enrolled in the fall of 1986 who were awarded aid and the average amount of aid awarded for the 1986-87 school year, by source of aid and by selected student characteristics. Table 4.3 indicates that the proportion of postbaccalaureate students enrolled in the fall of 1986 who received aid in general, and from various sources, varied as a function of students' personal and enrollment characteristics. The data also indicate that the amount of aid received varied by selected student characteristics.

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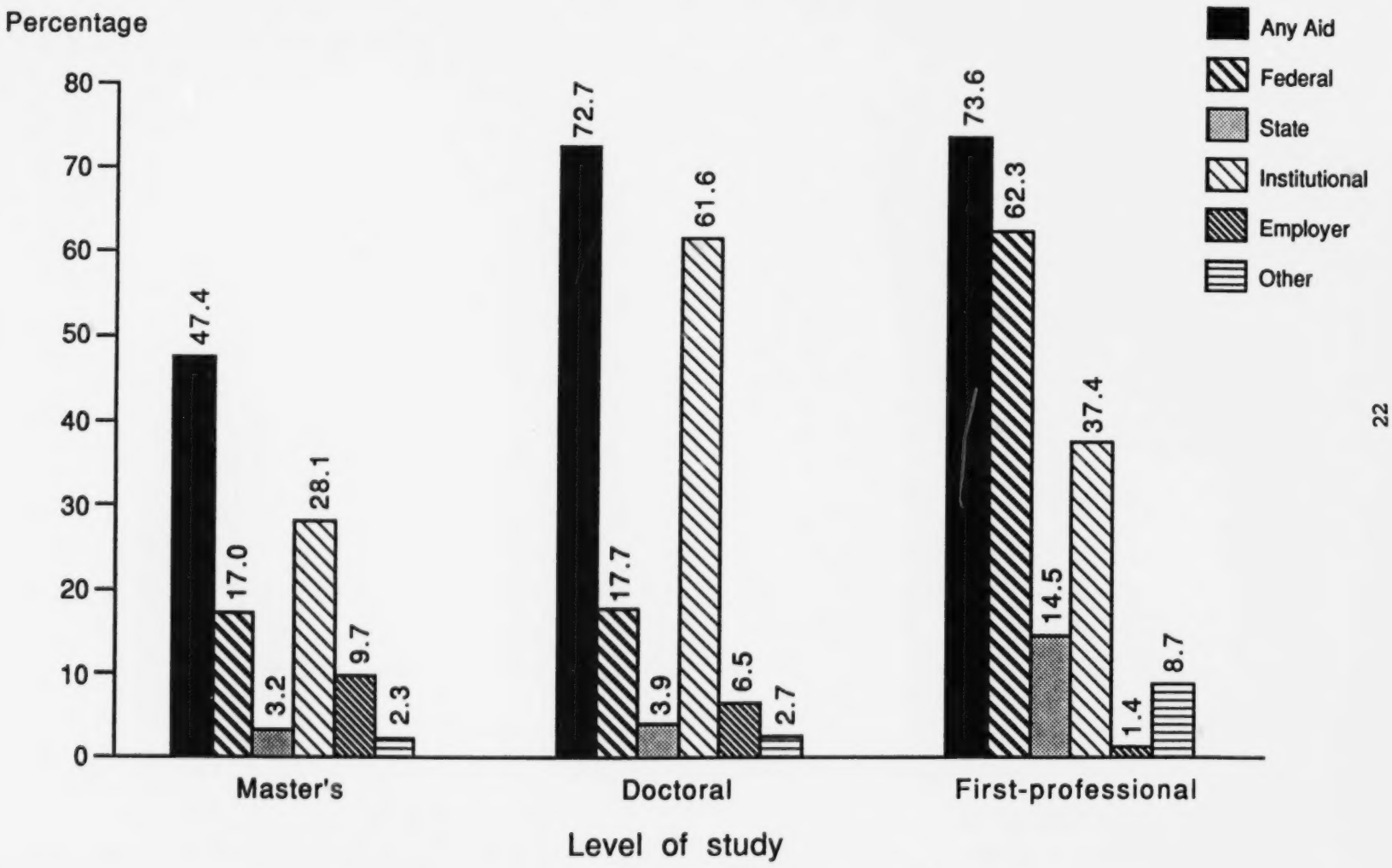
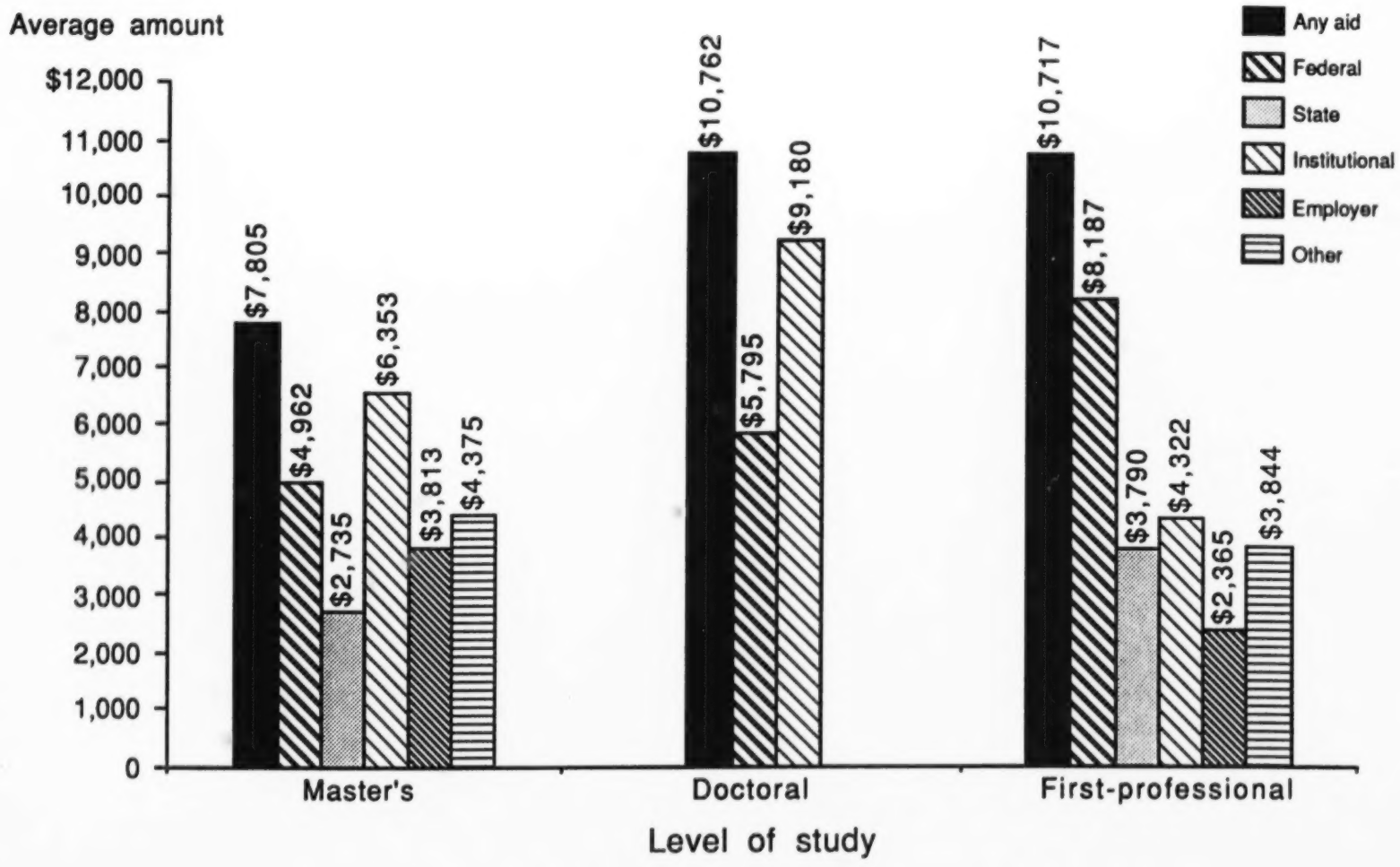
[1]Percentages may add to more than 100, since a student may have received aid from more than one source.

Figure 4.1-Percentage of postbaccalaureate students enrolled in the fall of 1986 who were awarded aid, by level of study and source of aid



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Figure 4.2- Average amount of aid awarded for the 1986-87 school year to full-time postbaccalaureate students enrolled in the fall of 1986, by level of study and source of aid



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Table 4.3--Postbaccalaureate students enrolled in the fall of 1986, by aid status, source of aid, level of study, and selected student characteristic

Selected student characteristic	Number of students 1/	Nonaided	Source of aid 2/ (in percent)					
			Any aid 3/	Federal	State	Institution	Employer	Other 4/
Total postbaccalaureate students	1,340,079	43.2	56.8	27.3	5.9	34.8	7.4	3.8
			Master's					
Total	852,340	52.6	47.4	17.0	3.2	28.1	9.7	2.3
Gender								
Male	378,356	48.4	51.6	17.6	3.1	30.3	10.9	2.5
Female	473,984	56.0	44.0	16.5	3.4	26.3	8.8	2.2
Race/ethnicity								
American Indian	4,586	--	--	--	--	--	--	--
Asian American	61,040	47.7	52.3	7.3	2.8	41.9	5.1	4.7
Black, non-Hispanic	47,448	45.2	54.8	27.9	4.6	33.0	5.6	3.3
Hispanic	34,000	52.6	47.4	18.6	2.8	29.8	7.0	2.7
White, non-Hispanic	698,431	53.4	46.6	17.0	3.1	26.6	10.6	2.1
Age								
23 or younger	81,723	34.3	65.7	24.5	4.0	49.2	6.1	3.9
24-26	190,472	45.5	54.5	19.4	4.2	36.6	8.4	2.5
27-29	139,768	48.2	51.8	19.4	4.6	27.3	13.2	1.8
30-34	165,778	53.7	46.3	17.7	2.9	24.8	11.7	1.9
35-39	127,758	61.5	38.5	12.1	2.6	20.6	8.6	1.8
40 or older	146,694	67.3	32.7	10.7	1.2	16.2	8.9	2.6
Marital status								
Married	434,008	59.9	40.1	11.5	2.3	20.9	10.7	1.9
Not married 5/	414,796	44.9	55.1	22.7	4.2	35.7	8.7	2.8
Attendance status								
Full-time	277,705	31.3	68.7	31.9	6.2	47.6	5.9	4.2
Part-time	519,803	64.1	35.9	9.2	1.7	17.4	11.9	1.2
Dependency status								
Dependent	235,245	48.9	51.1	12.6	2.4	39.5	6.7	2.5
Independent	606,505	54.0	46.0	18.8	3.6	23.7	11.0	2.2
Housing status								
School-owned	54,802	24.9	75.1	26.3	5.0	64.1	4.6	7.5
Off-campus, not with parents	720,240	53.6	46.4	17.0	3.2	26.0	10.3	2.1
With parents	76,946	62.8	37.2	10.3	1.9	22.5	7.9	0.6
Citizenship								
U.S. citizen	635,620	52.0	48.0	19.7	3.4	27.7	9.5	2.0
Resident alien	22,257	41.9	58.1	20.1	4.5	41.0	4.0	5.4
Nonresident alien	32,971	31.1	68.9	6.3	4.2	59.1	5.9	7.6
Field of study								
Arts and humanities	69,121	37.7	62.3	23.3	4.5	47.6	7.0	5.0
Business	169,484	56.3	43.7	14.7	2.5	17.0	18.1	1.4
Education	184,827	65.1	34.9	13.3	2.7	19.4	5.4	1.5
Engineering	41,562	37.5	62.5	16.2	4.2	42.9	11.9	2.7
Natural sciences 6/	92,877	36.9	63.1	21.9	6.4	46.2	7.9	2.5
Social sciences	85,181	43.5	56.5	26.3	3.8	32.1	6.4	4.2
Other	63,049	49.4	50.6	15.2	1.3	31.6	11.6	1.4

Table 4.3--Postbaccalaureate students enrolled in the fall of 1986, by aid status, source of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students 1/	Source of aid 2/ (in percent)					
		Nonaided	Any aid 3/	Federal	State	Institution	Employer	Other 4/
Doctoral								
Total	184,483	27.3	72.7	17.7	3.9	61.6	6.5	2.7
Gender								
Male	107,908	24.1	75.9	15.7	4.3	64.6	7.8	3.1
Female	76,574	31.8	68.2	20.4	3.4	57.4	4.7	2.1
Race/ethnicity								
American Indian	386	--	--	--	--	--	--	--
Asian American	27,869	18.9	81.1	7.8	5.1	80.5	3.7	2.7
Black, non-Hispanic	10,073	43.1	56.9	18.4	9.6	40.8	5.3	6.5
Hispanic	7,594	30.8	69.2	15.4	7.8	42.6	7.3	8.6
White, non-Hispanic	136,185	27.5	72.5	20.0	3.0	60.4	7.2	2.0
Age								
23 or younger	13,258	1.7	98.3	16.3	5.2	92.4	3.4	1.1
24-26	30,178	13.2	86.8	25.5	1.8	76.1	4.1	2.5
27-29	36,711	15.5	84.5	18.5	3.6	78.6	6.2	1.7
30-34	47,935	27.5	72.5	17.1	3.1	62.1	6.9	3.4
35-39	26,663	42.4	57.6	11.0	5.6	42.4	10.5	3.1
40 or older	29,738	53.6	46.4	16.2	5.9	28.5	6.4	3.3
Marital status								
Married	93,208	34.5	65.5	14.5	3.6	53.3	7.4	2.1
Not married 5/	91,028	19.9	80.1	21.0	4.3	70.3	5.3	3.4
Attendance status								
Full-time	96,990	12.1	87.9	22.9	5.6	76.3	6.3	3.2
Part-time	69,513	47.6	52.4	11.1	2.7	42.3	6.9	1.6
Dependency status								
Dependent	49,920	22.4	77.6	9.6	2.1	70.7	4.9	2.7
Independent	130,662	29.8	70.2	21.3	4.5	57.2	7.1	2.7
Housing status								
School-owned	26,681	11.2	88.8	14.5	5.3	86.2	5.4	5.0
Off-campus, not with parents	150,464	29.7	70.3	18.5	3.7	57.6	7.0	2.3
With parents	6,304	42.0	58.0	9.1	5.2	46.0	0.0	2.3
Citizenship								
U.S. citizen	123,323	29.8	70.2	22.0	3.8	57.5	6.6	0.9
Resident alien	8,030	17.7	82.3	14.5	4.6	74.1	8.5	2.1
Nonresident alien	22,288	14.2	85.8	3.8	7.4	82.9	6.2	8.5
Field of study								
Arts and humanities	27,154	27.0	73.0	16.6	2.4	62.7	7.1	3.8
Business	7,203	28.3	71.7	8.5	4.3	53.8	14.5	0.0
Education	29,271	53.1	46.9	14.2	3.7	29.9	9.1	0.6
Engineering	12,951	7.3	92.7	11.0	14.0	85.0	12.4	2.9
Natural sciences 6/	45,808	11.4	88.6	22.5	2.4	78.8	3.9	4.2
Social sciences	32,501	35.3	64.7	21.0	4.1	58.8	3.0	2.1
Other	11,079	28.2	71.8	15.6	8.9	57.7	4.0	3.3

Table 4.3--Postbaccalaureate students enrolled in the fall of 1986, by aid status, source of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students 1/	Nonaided	Source of aid 2/ (in percent)					
			Any aid 3/	Federal	State	Institution	Employer	Other 4/
			First-professional					
Total	303,256	26.4	73.6	62.3	14.5	37.4	1.4	8.7
Gender								
Male	189,486	29.5	70.5	59.5	13.9	35.5	1.5	8.1
Female	113,770	21.3	78.7	67.0	15.7	40.7	1.2	9.7
Race/ethnicity								
American Indian	1,406	--	--	--	--	--	--	--
Asian American	16,001	28.0	72.0	59.3	13.9	48.2	1.8	10.1
Black, non-Hispanic	11,648	14.0	86.0	72.5	19.7	59.3	0.6	14.3
Hispanic	14,320	18.2	81.8	71.4	31.8	49.2	0.2	15.0
White, non-Hispanic	258,681	27.4	72.6	61.5	13.5	35.2	1.5	8.0
Age								
23 or younger	81,820	28.3	71.7	60.0	14.7	39.7	0.5	6.6
24-26	117,445	27.3	72.7	65.2	14.5	36.6	1.4	8.6
27-29	42,190	21.7	78.3	63.0	14.7	37.6	1.8	11.7
30-34	36,227	22.7	77.3	64.2	16.9	38.7	1.7	10.7
35-39	15,379	23.7	76.3	61.7	13.8	37.3	1.4	8.7
40 or older	10,195	38.4	61.6	39.2	5.4	23.8	5.5	8.0
Marital status								
Married	87,820	27.5	72.5	59.4	11.4	35.3	1.6	9.6
Not married 5/	215,302	25.9	74.1	63.6	15.9	38.3	1.3	8.3
Attendance status								
Full-time	270,876	24.7	75.3	64.7	15.2	38.4	1.0	8.8
Part-time	19,261	50.5	49.5	30.4	5.3	19.4	7.0	7.9
Dependency status								
Dependent	161,415	35.5	64.5	53.7	12.7	35.3	0.8	6.3
Independent	140,281	15.8	84.2	72.6	16.8	39.6	2.1	11.6
Housing status								
School-owned	72,530	24.8	75.2	63.2	17.9	49.2	1.3	12.4
Off-campus, not with parents	209,796	26.3	73.7	62.7	13.7	34.0	1.4	7.9
With parents	20,931	33.1	66.9	55.2	12.0	31.4	1.5	4.0
Citizenship								
U.S. citizen	263,386	25.0	75.0	65.0	15.4	37.6	1.0	7.8
Resident alien	6,597	12.6	87.4	71.4	14.3	67.8	0.0	19.0
Nonresident alien	3,925	--	--	--	--	--	--	--
Field of study								
Law	113,410	31.9	68.1	56.5	9.7	30.0	1.3	4.1
Medicine	113,657	25.0	75.0	67.8	21.0	44.3	0.8	10.1
Other medicine 7/	49,690	17.8	82.2	73.8	15.3	32.6	1.7	9.4
Theology	13,827	31.8	68.2	27.8	2.8	55.5	3.5	32.5

--Too few cases for a reliable estimate.

1/ The number of students varies for each student characteristic because tabulations were based on only those students for whom the characteristic was known.

2/ Percents added across the various sources may total more than 100 because some students received aid from multiple sources.

3/ Includes students who reported they were awarded aid but were not specific about the source of aid.

4/ Includes aid provided by corporations, unions, foundations, fraternal organizations, community organizations, etc.

5/ Includes students who were single, separated, divorced, or widowed.

6/ Includes students who majored in life sciences, physical sciences, or mathematics.

7/ Includes chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

A higher proportion of male than female graduate (master's/doctoral) students enrolled in the fall of 1986 received financial aid. For example, among master's students, 52 percent of the males and 44 percent of the females received financial aid in 1986-87 (table 4.3). The amount of financial aid also was higher for male than female graduate students. Full-time male master's students received about $8,400 in financial aid and full-time female master's students received about $7,200 in financial aid during the year (table 4.4). Similar proportions of male and female first-professional students received financial aid (70.5 and 78.7 percent, respectively) (table 4.3).

Among master's students who were enrolled in the fall, a higher proportion of younger students (23 or younger) received financial aid (65.7 percent) than older students (40 or older) (32.7 percent). This was especially true for institutional aid. Nearly one-half of the master's students who were 23 or younger received institutional aid, while 16 percent of the master's students who were 40 years old or older received institutional aid (table 4.3). The average amount of institutional aid received by full-time master's students 23 years or younger was $8,400, while the average amount of institutional aid for full-time master's students 40 years old and older was close to two-thirds that amount ($4,910) (table 4.4).

The majority of master's students attended postsecondary institutions part-time (table 2.2); however, the data in table 4.3 indicate that fewer part-time than full-time master's students received financial aid during the school year (35.9 vs. 68.7 percent, respectively) and received less money ($4,150 vs. $7,805) (table 4.2). The data also indicate that a larger percentage of engineering and natural sciences' majors than education majors received financial aid (62.2, 63.1, and 34.9 percent, respectively) during the year (table 4.3). Full-time master's students majoring in engineering received $11,500 in aid, those majoring in one of the natural sciences received $8,600, and those majoring in education received $5,700 in financial aid during the school year (table 4.4).

Among doctoral students enrolled in the fall, similar patterns were found. Younger students rather than older students were more likely to receive aid and larger amounts of aid. Full-time doctoral students were much more likely than part-time doctoral students to receive aid, and doctoral students majoring in one of the natural sciences or in engineering were much more likely to receive aid than doctoral students majoring in education. Ninety-three percent of the doctoral students majoring in engineering received aid, versus 47 percent of the doctoral students majoring in education (table 4.3).

Among first-professional students, aid status did not generally vary as a function of age. Regardless of the specific age category, approximately three-quarters of the first-professional students were aided (table 4.3). Almost all first-professional students enrolled in the fall of 1986 attended school full time (93.4 percent) (table 2.2). Furthermore, those who attended school full time were more likely to receive financial aid than those who attended school part time (75.3 and 49.5 percent, respectively) (table 4.3).

First-professionals majoring in law were slightly less likely to be

Table 4.4--Average amount of aid awarded for the 1986-87 school year to aided postbaccalaureate students enrolled in the fall of 1986, by source of aid, level of study, attendance status, and selected student characteristic

Selected student characteristic	Any aid	Federal	State	Institutional	Employer	Other 1/
			Full-time master's			
Total	$7,805	$4,962	$2,735	$6,353	$3,813	$4,375
Gender						
Male	8,431	4,950	2,989	7,179	--	--
Female	7,157	4,973	2,549	5,434	2,969	3,270
Race/ethnicity						
American Indian	--	--	--	--	--	--
Asian American	9,163	--	--	8,007	--	--
Black, non-Hispanic	6,453	4,391	--	4,146	--	--
Hispanic	--	--	--	--	--	--
White, non-Hispanic	7,801	5,065	2,893	6,285	3,454	3,833
Age						
23 or younger	9,279	4,573	--	8,442	--	--
24-26	8,057	5,133	--	6,424	--	--
27-29	7,339	5,374	--	5,252	--	--
30-34	7,450	5,092	--	5,628	--	--
35-39	6,536	--	--	4,524	--	--
40 or older	5,996	4,462	--	4,910	--	--
Marital status						
Married	6,467	4,353	--	5,571	--	--
Not married 2/	8,424	5,248	2,715	6,653	3,648	4,347
Dependency status						
Dependent	8,379	4,350	--	7,286	--	--
Independent	7,251	5,148	2,770	5,220	2,993	3,264
Housing status						
School-owned	9,677	5,180	--	7,388	--	--
Off-campus, not with parents	7,586	4,937	2,790	6,161	3,632	4,168
With parents	5,931	--	--	5,604	--	--
Citizenship						
U.S. citizen	7,433	4,973	2,615	5,791	3,394	3,141
Resident alien	7,567	--	--	--	--	--
Nonresident alien	9,648	--	--	7,548	--	--
Field of study						
Arts and humanities	7,931	4,794	--	6,307	--	--
Business	7,737	5,673	--	5,021	--	--
Education	5,680	4,175	--	4,827	--	--
Engineering	11,472	--	--	10,986	--	--
Natural sciences 3/	8,596	4,905	--	6,955	--	--
Social sciences	7,417	5,224	--	6,254	--	--
Other	7,669	--	--	6,734	--	--

Table 4.4--Average amount of aid awarded for the 1986-87 school year to aided postbaccalaureate students enrolled in the fall of 1986, by source of aid, level of study, attendance status, and selected student characteristic--continued

Selected student characteristic	Any aid	Federal	State	Institutional	Employer	Other 1/
			Full-time doctoral			
Total	$10,762	$5,795	--	$9,180	--	--
Gender						
Male	11,415	6,589	--	9,756	--	--
Female	9,818	5,009	--	8,327	--	--
Race/ethnicity						
American Indian	--	--	--	--	--	--
Asian American	12,402	--	--	10,102	--	--
Black, non-Hispanic	--	--	--	--	--	--
Hispanic	--	--	--	--	--	--
White, non-Hispanic	10,386	6,178	--	9,029	--	--
Age						
23 or younger	12,446	--	--	10,770	--	--
24-26	11,910	6,883	--	10,133	--	--
27-29	9,943	--	--	8,130	--	--
30-34	11,378	--	--	10,322	--	--
35-39	9,685	--	--	--	--	--
40 or older	--	--	--	--	--	--
Marital status						
Married	10,061	5,656	--	8,938	--	--
Not married 2/	11,263	5,868	--	9,333	--	--
Dependency status						
Dependent	11,013	--	--	9,555	--	--
Independent	10,514	5,307	--	8,857	--	--
Housing status						
School-owned	12,747	--	--	10,121	--	--
Off-campus, not with parents	10,264	5,853	--	8,884	--	--
With parents	--	--	--	--	--	--
Citizenship						
U.S. citizen	10,241	5,788	--	8,684	--	--
Resident alien	--	--	--	--	--	--
Nonresident alien	12,840	--	--	10,374	--	--
Field of study						
Arts and humanities	9,981	5,024	--	8,201	--	--
Business	--	--	--	--	--	--
Education	--	--	--	--	--	--
Engineering	13,194	--	--	10,887	--	--
Natural sciences 3/	11,511	5,723	--	10,087	--	--
Social sciences	11,042	--	--	8,269	--	--
Other	--	--	--	--	--	--

Table 4.4--Average amount of aid awarded for the 1986-87 school year to aided postbaccalaureate students enrolled in the fall of 1986, by source of aid, level of study, attendance status, and selected student characteristic--continued

Selected student characteristic	Any aid	Federal	State	Institutional	Employer	Other 1/
			Full-time first-professional			
Total	$10,717	$8,187	$3,790	$4,322	$2,365	$3,844
Gender						
Male	10,676	8,064	3,884	4,426	--	4,069
Female	10,779	8,370	3,651	4,169	--	3,521
Race/ethnicity						
American Indian	--	--	--	--	--	--
Asian American	11,325	8,050	--	5,190	--	--
Black, non-Hispanic	13,712	8,364	--	6,570	--	--
Hispanic	16,884	9,975	--	6,112	--	--
White, non-Hispanic	10,104	8,035	3,533	3,939	2,149	3,656
Age						
23 or younger	10,669	7,894	3,827	4,673	--	2,818
24-26	10,162	7,771	3,669	3,693	--	3,614
27-29	12,034	9,288	3,585	5,114	--	6,083
30-34	11,037	8,596	4,408	4,366	--	--
35-39	10,866	9,363	--	3,634	--	--
40 or older	10,274	7,663	--	--	--	--
Marital status						
Married	9,733	7,732	3,953	4,024	--	3,087
Not married 2/	11,088	8,352	3,748	4,428	--	4,227
Dependency status						
Dependent	10,667	8,145	4,140	4,367	--	3,610
Independent	10,697	8,235	3,471	4,126	--	4,013
Housing status						
School-owned	12,853	9,280	3,939	4,862	--	4,426
Off-campus, not with parents	10,188	7,896	3,874	4,152	--	3,596
With parents	7,550	6,747	1,971	2,954	--	--
Citizenship						
U.S. citizen	10,676	8,135	3,845	4,257	--	3,397
Resident alien	14,776	--	--	--	--	--
Nonresident alien	--	--	--	--	--	--
Field of study						
Law	7,658	6,370	2,739	3,432	--	3,267
Medicine	13,991	9,708	4,136	5,357	--	4,844
Other medicine 4/	10,485	8,535	4,292	2,899	--	3,368
Theology	4,882	3,673	--	2,393	--	1,995

--Too few cases for a reliable estimate.

1/ Includes aid provided by corporations, unions, foundations, fraternal organizations, community organizations, etc.

2/ Includes students who were single, separated, divorced, or widowed.

3/ Includes students who majored in life sciences, physical sciences, or mathematics.

4/ Includes chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

aided than those majoring in the medical disciplines. That is, while 68 percent of the students pursuing a law degree received aid in the 1986-87 school year, 75 percent of the students pursuing an M.D. degree received aid, and 82 percent of the students pursuing other medical[2] degrees received aid (table 4.3). Differences in the amount of aid received across the disciplines varied, as well. Full-time theology students enrolled in the fall of 1986 received $4,900 in financial aid during the school year, full-time law students received $7,700, while full-time medical students received $14,000 in financial aid (table 4.4).

Types and Sources of Student Financial Aid, by Control and Level of Institution

Table 4.5 profiles postbaccalaureate students in different types of postsecondary institutions by the type of aid received (fellowship/grant, tuition waiver, assistantship, loan) (see appendix B, section V for definition of terms and specific financial aid programs included under each category). Of the postbaccalaureate students enrolled in a postsecondary institution in the fall of 1986, 25 percent received a fellowship/grant, 18 percent received a tuition waiver, 20 percent received an assistantship, and 26 percent received a loan in 1986-87 (table 4.5). Full-time postbaccalaureate students received, on average, $4,800 in fellowship/grant aid, $3,600 in tuition waivers, $4,600 in assistantships and $7,900 in loan aid (table 4.6).

Table 4.5 also provides information on the percentage of postbaccalaureate students who received Guaranteed Student Loans and/or other types of loans. Of the postbaccalaureate students enrolled in a postsecondary institution in the fall of 1986, 24 percent received a loan through the Guaranteed Student Loan (GSL) program and 13 percent received some type of loan other than a Guaranteed Student Loan (table 4.5). The average amount borrowed through the GSL program was about $5,100 (table 4.6).

The type of aid postbaccalaureate students received varied with their level of study. Thirty-eight percent of the doctoral students enrolled in the fall of 1986 received tuition waivers, while only 17 percent of the master's students and 6 percent of the first-professional students received tuition waivers during the 1986-87 school year (table 4.5 and figure 4.3). Although a higher percentage of doctoral than first-professional students received tuition waivers, the average amount of tuition waivers received by full-time first-professionals ($4,465) was similar to the amount received by doctoral students ($3,982) (table 4.6 and figure 4.4).

A higher proportion of doctoral students received assistantships in 1986-87 (49.0 percent) than master's or first-professional students (17.3 and 11.0 percent, respectively) (table 4.5 and figure 4.3). Full-time doctoral students received higher amounts of assistantships, on average ($5,730), than full-time master's ($4,555) or first-professional students ($2,433) (table 4.6 figure 4.4).

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[2]Other medical includes: chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

Table 4.5--Postbaccalaureate students enrolled in the fall of 1986 who were awarded aid, by type of aid, level of study, and control and level of institution

Control and level of institution	Number of students	Type of aid 1/ (in percent)						
		Any aid 2/	Fellowships/ grants 3/	Tuition waivers	Assistantships 4/	Loans		
						Any loans	GSL	Other loans
Total postbaccalaureate students	1,340,079	56.8	25.2	17.6	20.2	26.5	23.5	13.3
Master's								
Total	852,340	47.4	22.0	17.2	17.3	15.8	13.6	5.0
Public	527,428	44.8	17.4	19.9	20.1	13.4	11.5	3.6
4-year doctoral	346,540	50.0	19.6	23.0	24.2	15.4	13.3	4.2
Other 4-year	180,888	34.8	13.3	14.0	12.4	9.6	7.9	2.6
Private	324,912	51.7	29.3	12.8	12.7	19.6	17.0	7.2
4-year doctoral	215,047	56.9	32.6	16.3	16.3	21.9	19.2	8.8
Other 4-year	109,865	41.4	22.8	5.7	5.8	15.0	12.7	4.0
Doctoral								
Total	184,483	72.7	31.1	38.3	49.0	15.8	13.1	4.5
Public	117,528	70.8	25.1	38.3	52.4	15.3	13.2	2.9
Private	66,955	76.1	41.6	38.4	43.0	16.7	12.9	7.4
First-professional								
Total	303,256	73.6	30.6	6.3	11.0	62.9	57.5	42.1
Public	101,528	72.3	30.0	7.4	11.1	59.9	55.7	36.8
Private	201,728	74.2	31.0	5.7	10.9	64.4	58.4	44.7

1/ Percents added across the various types of aid total more than 100 because some students received multiple types and sources of aid.

2/ Includes students who reported they were awarded aid but were not specific about the type of aid.

3/ Includes students who received employer benefits.

4/ Includes students who received teaching or research assistantships and/or participated in work-study programs.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Table 4.6--Average amount of aid awarded for the 1986-87 school year to aided postbaccalaureate students enrolled in the fall of 1986, by type of aid, attendance status, level of study, and control and level of institution

Control and level of institution	Any aid 1/	Fellowships/ grants 2/	Tuition waivers	Assistantships 3/	Loans		
					Any loans	GSL	Other loans
Full-time							
Total	$9,602	$4,826	$3,558	$4,599	$7,866	$5,123	$5,807
Total master's	7,805	4,385	3,099	4,555	5,264	4,436	3,771
Public	6,956	3,782	2,333	4,791	4,242	4,027	2,405
4-year doctoral	7,452	4,252	2,466	5,290	4,328	4,125	2,532
Other 4-year	4,706	--	--	2,465	3,977	3,729	--
Private, not-for-profit	9,167	5,008	5,404	3,978	6,580	4,979	4,799
4-year doctoral	9,916	5,397	5,580	4,123	7,065	5,152	4,860
Other 4-year	5,532	2,781	--	--	4,831	4,255	--
Total doctoral	10,762	7,449	3,982	5,730	4,999	4,580	3,652
Public	9,219	6,186	2,521	5,828	4,312	4,427	--
Private	13,475	8,969	6,717	5,520	6,154	4,849	--
Total first-professional	10,717	4,043	4,465	2,433	9,458	5,489	6,473
Public	7,969	3,195	1,397	2,612	7,100	4,865	4,201
Private	12,066	4,468	6,019	2,345	10,583	5,791	7,386
Part-time							
Total	$4,989	$2,694	$1,858	$6,392	$4,066	$3,918	$2,364
Total master's	4,150	2,165	1,667	6,105	3,991	3,985	1,991
Public	3,982	1,476	1,235	6,060	3,640	3,926	--
4-year doctoral	4,790	1,786	1,682	6,353	3,725	3,914	--
Other 4-year	2,585	935	525	5,310	--	--	--
Private	4,372	2,846	2,716	6,257	4,321	4,040	2,568
4-year doctoral	4,823	3,260	3,055	4,744	4,717	4,338	--
Other 4-year	3,550	2,133	--	--	3,547	3,468	--
Total doctoral	8,286	5,911	2,347	7,054	--	--	--
Public	8,084	--	1,447	7,632	--	--	--
Private	8,754	6,148	--	5,198	--	--	--
Total first-professional	6,462	3,618	--	--	5,882	4,925	--
Public	--	--	--	--	--	--	--
Private	5,597	--	--	--	5,695	4,880	--

--Too few cases for a reliable estimate.

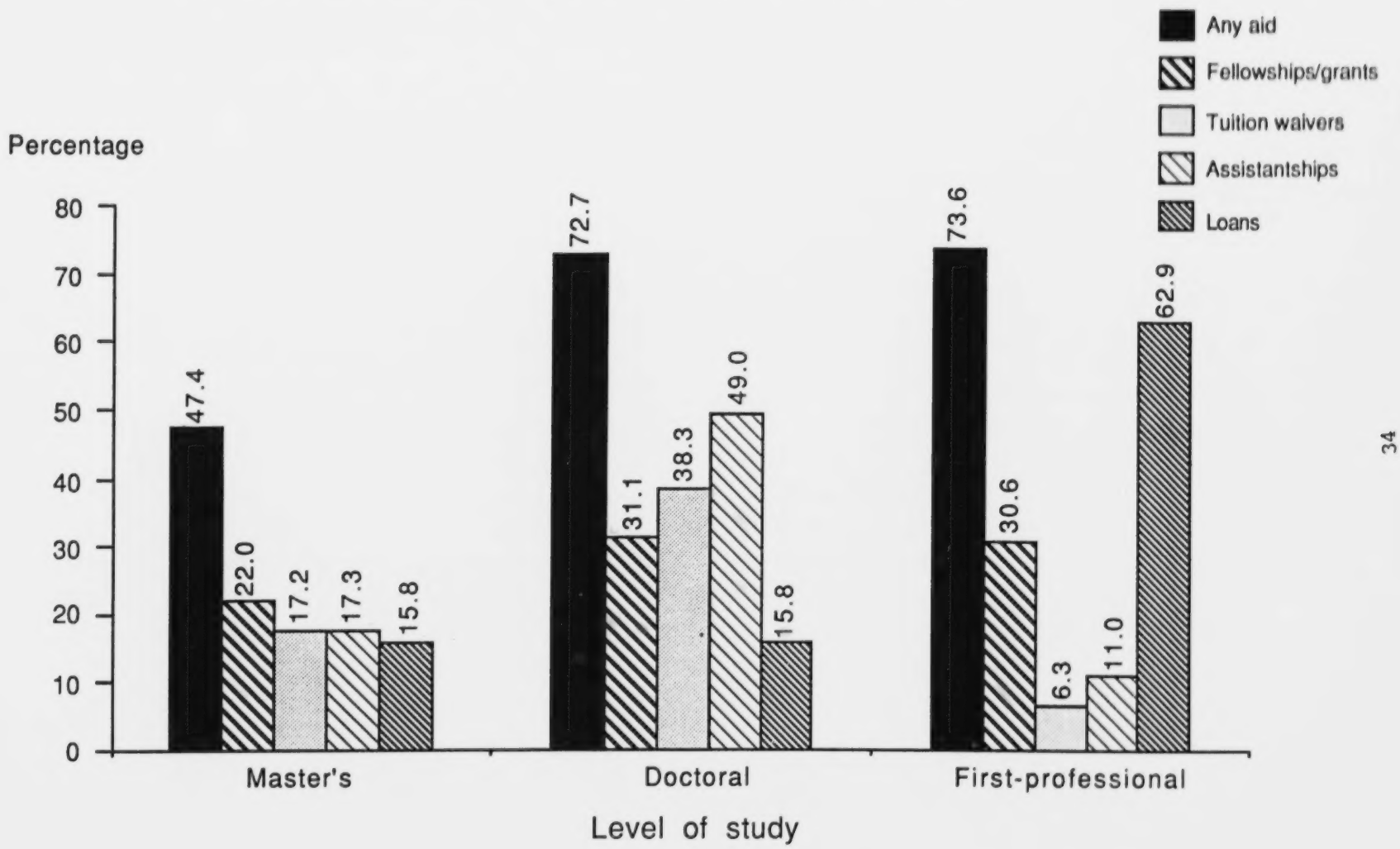
1/ Includes students who reported they were awarded aid but were not specific about the type of aid.

2/ Includes students who received employer benefits.

3/ Includes students who received teaching or research assistantships and/or participated in work-study programs.

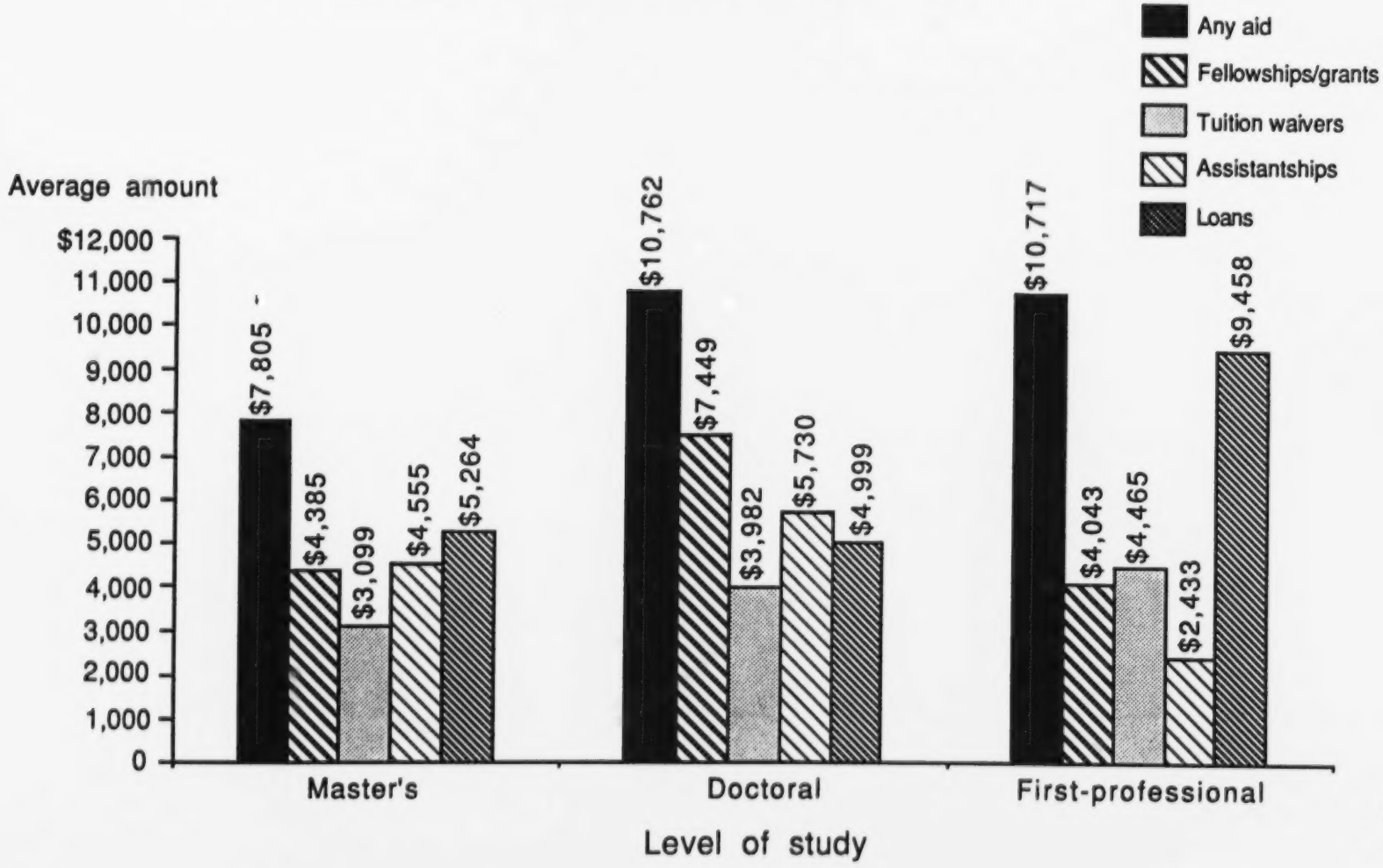
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Figure 4.3-Percentage of postbaccalaureate students enrolled in the fall of 1986 who were awarded aid, by level of study and type of aid



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Figure 4.4-Average amount of aid awarded for the 1986-87 school year to full-time postbaccalaureate students enrolled in the fall of 1986, by level of study and type of aid



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

In contrast, 63 percent of the first-professional students enrolled in the fall of 1986 received some type of loan during the school year (57.5 percent received a GSL--figure 4.5), while only 16 percent of the master's or doctoral students received loans during the year (table 4.5). Also, full-time first-professionals borrowed higher amounts of aid, on average ($9,458), than master's ($5,264) or doctoral students ($4,999) (table 4.6 and figure 4.6).

Looking at type of aid by control of institution, the data indicate that generally a higher proportion of postbaccalaureate students received various types of aid at private schools than at public schools. This was especially true for doctoral students who received fellowships/grants during the 1986-87 school year. Twenty-five percent of the doctoral students attending a public institution in the fall of 1986 received fellowships/grants, while 42 percent of the doctoral students attending a private institution received this type of aid (table 4.5). Full-time doctoral students at private institutions received higher amounts of fellowships/grants, on average ($8,969), than full-time doctoral students at public institutions ($6,186) (table 4.6).

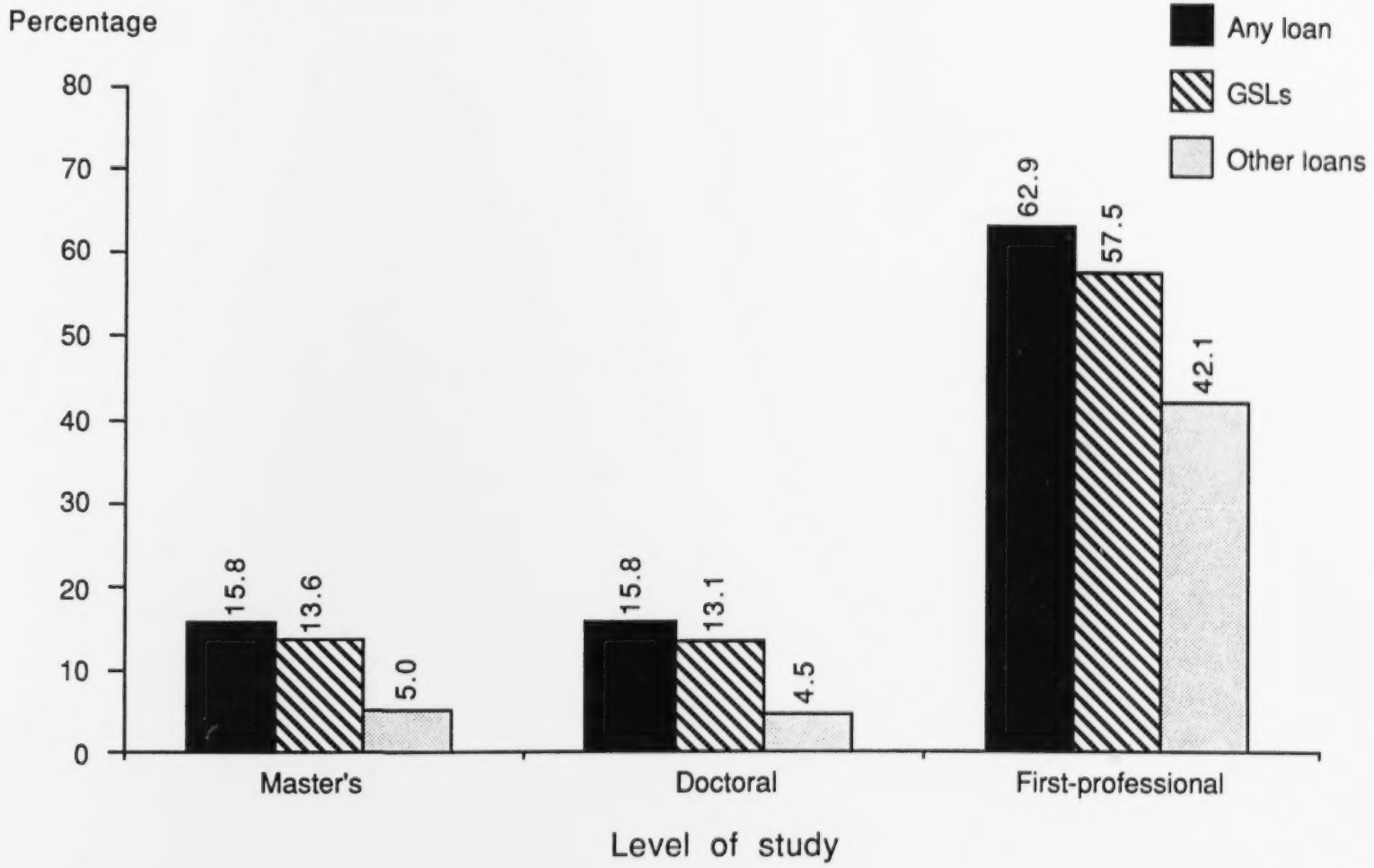
Types and Sources of Student Financial Aid, by Selected Student Characteristics

Tables 4.7 and 4.8 provide information on the percentage of postbaccalaureate students awarded aid and the amount of aid awarded, by type of aid and selected student characteristics. The data indicate that a higher proportion of male master's and doctoral students received grant aid and assistantships than female master's or doctoral students. Female master's and doctoral students were just as likely or more likely to have received loans during the 1986-87 school year. Similar proportions of female and male first-professional students received all types of aid (table 4.7). The average amount of aid received did not show a consistent pattern by gender. For instance, although a higher proportion of male than female doctoral students received tuition waivers in 1986-87, female doctoral students received approximately the same amount in tuition waivers as male doctoral students (table 4.7).

Regardless of the level of study, a higher proportion of full-time postbaccalaureate students received fellowships/grants, tuition waivers, assistantships, and loans than part-time postbaccalaureate students (table 4.7). Full-time master's, doctoral and first-professional students received higher amounts of fellowships/grants, tuition waivers, assistantships, and loans than part-time master's, doctoral, and first-professional students (table 4.8).

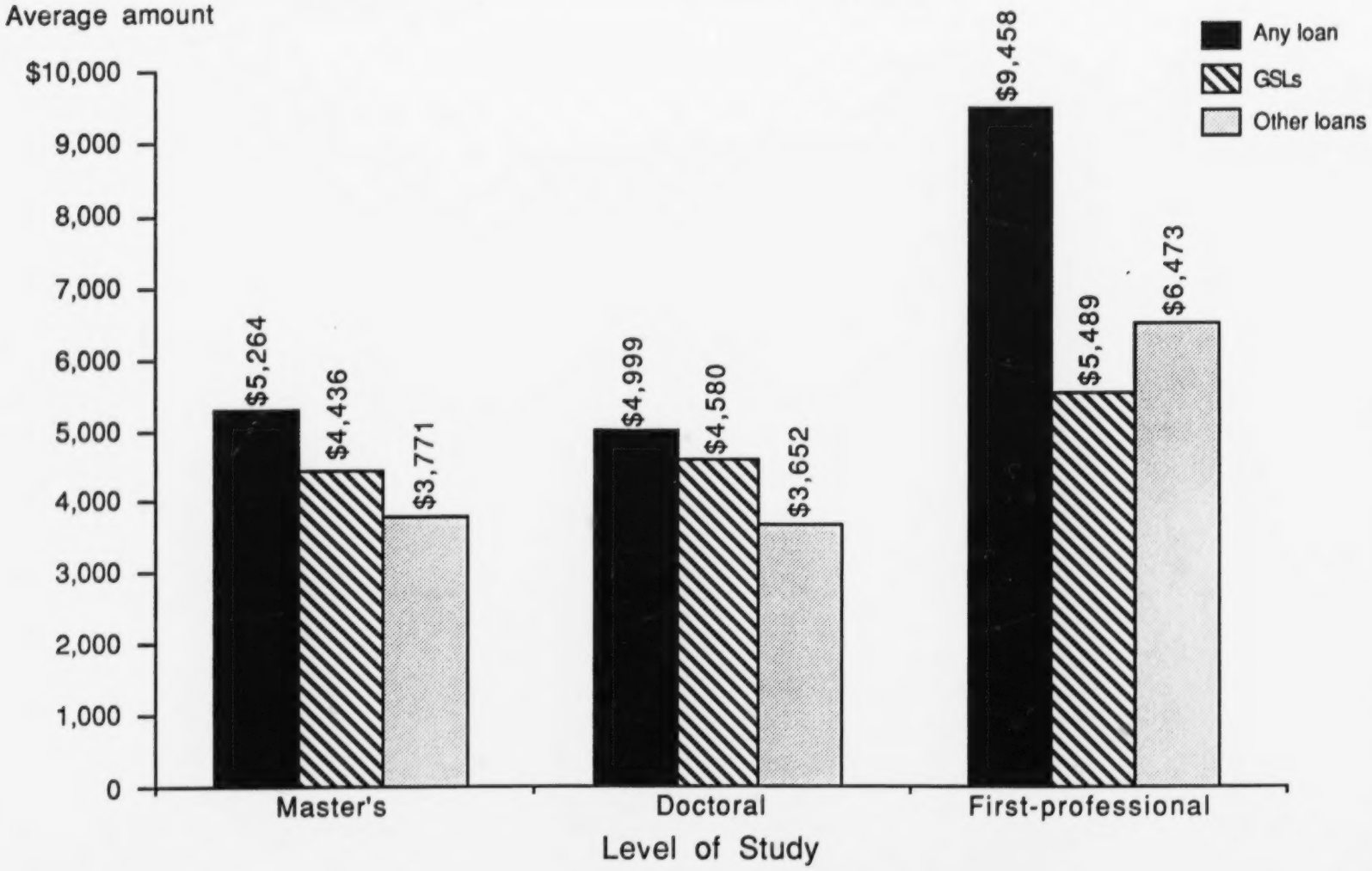
Among master's and doctoral students, a higher proportion of the students majoring in engineering or natural sciences received fellowships/grants, tuition waivers, and/or assistantships, than those majoring in education. Among first-professional students, a higher proportion of the students majoring in theology received fellowship/grant aid (58.8 percent) than students majoring in law (23.6 percent), general medicine (35.0 percent) or other medical fields (28.6 percent). Students majoring in theology were less likely to receive a loan (31.9 percent)

Figure 4.5- Percentage of postbaccalaureate students enrolled in the fall of 1986 who were awarded loans, by level of study and type of loan



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Figure 4.6- Average amount of loans awarded for the 1986-87 school year to full-time postbaccalaureate students enrolled in the fall of 1986, by level of study and type of loan



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Table 4.7--Postbaccalaureate students enrolled in the fall of 1986 who were awarded aid, by type of aid, level of study, and selected student characteristic

Selected student characteristic	Number of students 1/	Type of aid 2/ (in percent)						
		Any aid 3/	Fellowships/ grants 4/	Tuition waivers	Assistantships 5/	Loans		
						Any loans	GSL	Other loans
Total postbaccalaureate students	1,340,079	56.8	25.2	17.6	20.2	26.5	23.5	13.3
				Master's				
Total	852,340	47.4	22.0	17.2	17.3	15.8	13.6	5.0
Gender								
Male	378,356	51.6	24.0	18.5	20.8	16.4	13.8	5.1
Female	473,984	44.0	20.3	16.1	14.5	15.3	13.4	4.9
Race/ethnicity								
American Indian	4,586	--	--	--	--	--	--	--
Asian American	61,040	52.3	23.1	28.8	30.2	7.6	5.5	2.4
Black, non-Hispanic	47,448	54.8	21.3	16.3	15.8	29.8	25.1	8.8
Hispanic	34,000	47.4	18.8	19.6	17.7	17.3	14.7	4.8
White, non-Hispanic	698,431	46.6	22.2	16.2	16.3	15.4	13.4	4.9
Age								
23 or younger	81,723	65.7	29.4	33.9	36.2	23.9	21.3	5.6
24-26	190,472	54.5	23.6	22.1	25.5	18.8	16.0	6.2
27-29	139,768	51.8	24.9	15.9	15.6	18.2	16.5	6.5
30-34	165,778	46.3	21.0	15.3	14.8	16.2	13.4	6.0
35-39	127,758	38.5	19.3	11.3	10.2	10.4	8.6	2.6
40 or older	146,694	32.7	16.4	9.9	6.8	9.3	8.0	2.7
Marital status								
Married	434,008	40.1	21.0	12.5	10.6	9.6	8.0	2.6
Not married 6/	414,796	55.1	23.1	22.1	24.3	22.2	19.5	7.5
Attendance status								
Full-time	277,705	68.7	28.5	27.6	32.1	31.8	27.4	11.2
Part-time	519,803	35.9	18.2	11.3	9.2	7.5	6.6	1.7
Dependency status								
Dependent	235,245	51.1	21.2	25.1	27.5	13.1	10.5	4.6
Independent	606,505	46.0	22.3	14.0	13.2	17.1	15.0	5.3
Housing status								
School-owned	54,802	75.1	34.7	41.7	43.0	28.4	22.2	14.7
Off-campus, not with parents	720,240	46.4	21.8	16.0	15.6	15.4	13.4	4.6
With parents	76,946	37.2	14.9	11.3	15.1	10.4	9.5	2.0
Citizenship								
U.S. citizen	635,620	48.0	21.9	16.5	16.3	18.3	16.0	5.7
Resident alien	22,257	58.1	26.0	21.0	29.1	18.2	16.7	5.3
Nonresident alien	32,971	68.9	31.9	40.3	39.3	11.3	5.4	6.4

Table 4.7--Postbaccalaureate students enrolled in the fall of 1986 who were awarded aid, by type of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students 1/	Type of aid 2/ (in percent)						
		Any aid 3/	Fellowships/ grants 4/	Tuition waivers	Assistantships 5/	Loans		
						Any loans	GSL	Other loans
Field of study								
Arts and humanities	69,121	62.3	31.9	24.9	31.0	22.7	20.2	7.2
Business	169,484	43.7	26.8	9.9	8.0	13.3	10.8	5.8
Education	184,827	34.9	13.0	12.8	9.4	13.0	10.8	3.8
Engineering	41,562	62.5	28.2	32.7	34.8	13.5	11.1	2.4
Natural sciences 7/	92,877	63.1	27.7	25.7	31.3	18.7	17.0	5.5
Social sciences	85,181	56.5	21.4	21.6	18.5	26.6	22.5	9.2
Other	63,049	50.6	22.2	20.2	24.2	14.6	13.0	3.3
				Doctoral				
Total	184,483	72.7	31.1	38.3	49.0	15.8	13.1	4.5
Gender								
Male	107,908	75.9	34.2	41.9	52.3	13.7	10.6	5.2
Female	76,574	68.2	26.7	33.2	44.2	18.7	16.5	3.6
Race/ethnicity								
American Indian	386	--	--	--	--	--	--	--
Asian American	27,869	81.1	36.4	54.3	73.3	5.6	3.5	2.2
Black, non-Hispanic	10,073	56.9	26.0	24.6	34.5	17.7	14.1	7.3
Hispanic	7,594	69.2	40.2	34.7	26.7	16.4	11.3	5.1
White, non-Hispanic	136,185	72.5	29.7	36.3	46.1	17.8	15.2	4.8
Age								
23 or younger	13,258	98.3	47.8	66.7	64.7	13.7	12.6	3.3
24-26	30,178	86.8	30.7	50.4	62.6	20.5	20.0	5.4
27-29	36,711	84.5	31.3	44.4	67.0	17.2	13.0	6.6
30-34	47,935	72.5	31.4	37.5	49.9	17.2	14.2	3.6
35-39	26,663	57.6	29.1	25.9	35.2	10.2	8.1	3.2
40 or older	29,738	46.4	25.1	18.3	16.7	12.9	8.9	4.2
Marital status								
Married	93,208	65.5	30.3	31.4	41.5	12.0	9.9	3.3
Not married 6/	91,028	80.1	31.9	45.2	56.8	19.7	16.3	5.8
Attendance status								
Full-time	96,990	87.9	41.1	47.7	60.6	20.3	16.5	6.9
Part-time	69,513	52.4	17.9	25.8	34.8	9.8	8.6	1.2
Dependency status								
Dependent	49,920	77.6	31.1	43.5	58.4	8.0	7.5	3.0
Independent	130,662	70.2	30.1	35.8	44.5	19.2	15.6	5.3
Housing status								
School-owned	26,681	88.8	45.6	51.1	65.2	13.4	8.5	9.2
Off-campus, not with parents	150,464	70.3	28.8	36.8	46.3	16.5	14.2	3.6
With parents	6,304	58.0	21.8	27.7	35.6	6.8	6.8	3.3

Table 4.7--Postbaccalaureate students enrolled in the fall of 1986 who were awarded aid, by type of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students 1/	Type of aid 2/ (in percent)						
		Any aid 3/	Fellowships/ grants 4/	Tuition waivers	Assistantships 5/	Loans		
						Any loans	GSL	Other loans
Citizenship								
U.S. citizen	123,323	70.2	27.8	36.1	44.0	19.5	16.6	5.5
Resident alien	8,030	82.3	39.0	48.5	68.1	14.5	6.7	7.8
Nonresident alien	22,288	85.8	46.0	55.7	71.6	4.2	1.7	2.5
Field of study								
Arts and humanities	27,154	73.0	34.7	32.1	42.2	17.8	15.4	8.4
Business	7,203	71.7	37.0	36.7	41.8	11.7	6.3	9.4
Education	29,271	46.9	15.4	18.5	23.4	14.5	12.7	2.3
Engineering	12,951	92.7	45.6	67.8	79.7	4.6	0.0	4.6
Natural sciences 7/	45,808	88.6	33.7	51.1	67.9	15.6	14.6	2.7
Social sciences	32,501	64.7	30.0	33.7	43.3	21.1	17.6	4.8
Other	11,079	71.8	36.8	20.7	50.7	15.6	12.5	3.1
		First-professional						
Total	303,256	73.6	30.6	6.3	11.0	62.9	57.5	42.1
Gender								
Male	189,486	70.5	28.9	5.8	10.6	60.3	55.3	40.4
Female	113,770	78.7	33.6	7.1	11.8	67.2	61.1	44.8
Race/ethnicity								
American Indian	1,406	--	--	--	--	--	--	--
Asian American	16,001	72.0	34.2	9.0	19.0	58.9	53.5	40.3
Black, non-Hispanic	11,648	86.0	60.7	22.2	8.2	74.5	68.6	46.4
Hispanic	14,320	81.8	47.1	10.5	12.8	72.1	68.6	52.9
White, non-Hispanic	258,681	72.6	28.0	5.2	10.6	62.3	56.8	41.5
Age								
23 or younger	81,820	71.7	30.2	7.4	9.9	61.1	56.3	41.6
24-26	117,445	72.7	27.7	4.2	11.5	65.7	60.4	43.7
27-29	42,190	78.3	38.1	8.2	11.2	61.4	56.0	39.9
30-34	36,227	77.3	35.6	5.9	12.3	65.4	60.8	45.7
35-39	15,379	76.3	30.9	12.9	10.8	61.9	53.8	38.0
40 or older	10,195	61.6	19.8	4.5	9.5	44.8	34.9	29.5
Marital status								
Married	87,820	72.5	30.8	5.9	11.9	58.8	53.5	37.3
Not married 6/	215,302	74.1	30.6	6.4	10.6	64.6	59.2	44.0
Attendance status								
Full-time	270,876	75.3	31.8	5.7	10.9	65.3	59.8	43.7
Part-time	19,261	49.5	18.8	10.9	7.7	31.9	25.8	15.6
Dependency status								
Dependent	161,415	64.5	25.3	5.6	8.9	54.1	49.3	36.8
Independent	140,281	84.2	36.7	6.5	13.5	73.7	67.5	48.5

Table 4.7--Postbaccalaureate students enrolled in the fall of 1986 who were awarded aid, by type of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students 1/	Type of aid 2/ (in percent)						
		Any aid 3/	Fellowships/ grants 4/	Tuition waivers	Assistantships 5/	Loans		
						Any loans	GSL	Other loans
Housing status								
School-owned	72,530	75.2	36.8	7.0	10.3	62.9	56.8	45.3
Off-campus, not with parents	209,796	73.7	28.9	5.7	11.5	63.7	58.2	42.0
With parents	20,931	66.9	26.0	9.0	8.7	55.8	52.7	31.8
Citizenship								
U.S. citizen	263,386	75.0	30.1	6.0	10.7	65.4	60.2	43.4
Resident alien	6,597	87.4	59.6	4.0	20.6	78.5	62.5	63.7
Nonresident alien	3,925	--	--	--	--	--	--	--
Field of study								
Law	113,410	68.1	23.6	5.1	11.7	59.0	52.9	32.2
Medicine	113,657	75.0	35.0	7.3	5.2	65.8	61.6	51.0
Other medical 8/	49,690	82.2	28.6	4.8	13.7	75.3	70.6	52.7
Theology	13,827	68.2	58.8	6.2	24.6	31.9	20.3	14.8

--Too few cases for a reliable estimate.

1/ The number of students varies for each student characteristic because tabulations were based on only those students for whom the characteristic was known.

2/ Percents added across the various types of aid total more than 100 because some students received multiple types of aid.

3/ Includes students who reported they were awarded aid but were not specific about the type of aid.

4/ Includes students who received employer benefits.

5/ Includes students who received teaching or research assistantships and/or participated in work-study programs.

6/ Includes students who were single, separated, divorced, or widowed.

7/ Includes students who majored in life sciences, physical sciences, or mathematics.

8/ Includes chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Table 4.8--Average amount of aid awarded for the 1986-87 school year to aided postbaccalaureate students enrolled in the fall of 1986, by type of aid, level of study, attendance status, and selected student characteristic

Selected student characteristic	Any aid 1/	Fellowships/ grants 2/	Tuition waivers	Assistantships 3/	Loans		
					Any loans	GSL	Other loans
				Full-time master's			
Total	$7,805	$4,385	$3,099	$4,555	$5,264	$4,436	$3,771
Gender							
Male	8,431	4,892	3,469	4,983	5,214	4,358	4,098
Female	7,157	3,875	2,650	4,034	5,308	4,506	3,522
Race/ethnicity							
American Indian	--	--	--	--	--	--	--
Asian American	9,163	7,327	4,023	5,143	--	--	--
Black, non-Hispanic	6,453	--	--	--	4,025	--	--
Hispanic	--	--	--	--	--	--	--
White, non-Hispanic	7,801	4,149	2,994	4,542	5,518	4,592	3,986
Age							
23 or younger	9,280	5,270	4,101	4,950	4,780	4,115	-
24-26	8,057	4,441	3,210	4,575	5,570	4,571	3,887
27-29	7,339	4,343	3,093	3,885	5,731	4,566	4,289
30-34	7,450	4,018	1,918	4,826	5,200	4,352	3,421
35-39	6,536	--	--	--	4,566	--	--
40 or older	5,996	3,619	--	--	5,050	--	--
Marital status							
Married	6,467	4,097	2,378	4,992	4,556	4,133	3,495
Not married 4/	8,424	4,527	3,358	4,423	5,563	4,565	3,842
Dependency status							
Dependent	8,379	5,698	3,521	4,504	4,708	4,011	3,996
Independent	7,251	3,494	2,551	4,229	5,450	4,567	3,705
Housing status							
School-owned	9,677	5,123	4,006	4,115	6,487	4,373	5,098
Off-campus, not with parents	7,586	4,258	2,896	4,778	5,091	4,449	3,381
With parents	5,931	--	--	--	--	--	--
Citizenship							
U.S. citizen	7,433	3,615	2,831	4,308	5,403	4,479	3,811
Resident alien	7,567	--	--	--	--	--	--
Nonresident alien	9,648	7,981	3,080	5,370	--	--	--
Field of study							
Arts and humanities	7,931	3,399	3,401	4,420	5,300	4,618	--
Business	7,737	4,636	2,330	2,334	7,434	4,900	6,001
Education	5,680	2,277	--	3,523	4,233	3,662	--
Engineering	11,472	--	4,167	6,805	--	--	--
Natural sciences 5/	8,596	5,190	3,097	5,659	4,784	4,085	--
Social sciences	7,417	3,871	3,029	4,720	5,004	4,582	--
Other	7,669	--	--	4,077	--	--	--

Table 4.8--Average amount of aid awarded for the 1986-87 school year to aided postbaccalaureate students enrolled in the fall of 1986, by type of aid, level of study, attendance status, and selected student characteristic--continued

Selected student characteristic	Any aid 1/	Fellowships/ grants 2/	Tuition waivers	Assistantships 3/	Loans		
					Any loans	GSL	Other loans
				Full-time doctoral			
Total	$10,762	$7,449	$3,982	$5,730	$4,999	$4,580	$3,652
Gender							
Male	11,415	8,123	3,924	5,940	5,161	4,850	3,168
Female	9,818	6,437	4,090	5,405	4,844	4,363	--
Race/ethnicity							
American Indian	--	--	--	--	--	--	--
Asian American	12,402	--	3,417	6,257	--	--	--
Black, non-Hispanic	--	--	--	--	--	--	--
Hispanic	--	--	--	--	--	--	--
White, non-Hispanic	10,386	7,129	4,270	5,710	5,485	4,851	4,110
Age							
23 or younger	12,446	9,396	5,168	5,294	--	--	--
24-26	11,910	7,725	4,569	6,182	--	--	--
27-29	9,943	7,867	3,317	5,569	--	--	--
30-34	11,378	7,770	3,865	6,361	--	--	--
35-39	9,685	--	--	--	--	--	--
40 or older	--	--	--	--	--	--	--
Marital status							
Married	10,061	7,552	3,359	5,834	4,179	--	--
Not married 4/	11,263	7,377	4,350	5,664	5,363	4,946	3,974
Dependency status							
Dependent	11,013	8,746	3,761	5,923	--	--	--
Independent	10,514	6,638	4,121	5,629	4,428	4,288	2,927
Housing status							
School-owned	12,747	8,411	4,543	6,177	--	--	--
Off-campus, not with parents	10,264	7,025	3,831	5,609	5,180	4,712	4,095
With parents	--	--	--	--	--	--	--
Citizenship							
U.S. citizen	10,241	7,086	4,108	5,315	5,373	4,658	4,073
Resident alien	--	--	--	--	--	--	--
Nonresident alien	12,840	8,427	3,648	6,444	--	--	--
Field of study							
Arts and humanities	9,981	6,101	4,818	5,393	5,532	--	--
Business	--	--	--	--	--	--	--
Education	--	--	--	--	--	--	--
Engineering	13,194	--	--	6,156	--	--	--
Natural sciences 5/	11,511	8,669	4,187	6,375	--	--	--
Social sciences	11,042	7,984	3,880	4,599	--	--	--
Other	--	--	--	--	--	--	--

Table 4.8--Average amount of aid awarded for the 1986-87 school year to aided postbaccalaureate students enrolled in the fall of 1986, by type of aid, level of study, attendance status, and selected student characteristic--continued

Selected student characteristic	Any aid 1/	Fellowships/ grants 2/	Tuition waivers	Assistantships 3/	Loans		
					Any loans	GSL	Other loans
			Full-time first-professional				
Total	$10,717	$4,043	$4,465	$2,433	$9,458	$5,489	$6,473
Gender							
Male	10,676	4,280	4,421	2,787	9,231	5,446	6,147
Female	10,779	3,699	4,524	1,959	9,799	5,553	6,977
Race/ethnicity							
American Indian	--	--	--	--	--	--	--
Asian American	11,325	3,270	--	--	9,478	5,177	6,936
Black, non-Hispanic	13,712	4,827	--	--	9,943	5,528	8,234
Hispanic	16,885	7,321	--	--	12,574	6,525	8,614
White, non-Hispanic	10,104	3,561	4,466	2,378	9,230	5,436	6,222
Age							
23 or younger	10,669	4,114	5,887	2,028	9,198	5,468	5,894
24-26	10,163	4,004	2,763	1,745	9,091	5,458	6,086
27-29	12,034	4,907	--	3,660	10,286	5,772	7,398
30-34	11,037	3,755	--	2,656	9,972	5,260	7,126
35-39	10,866	2,358	--	--	10,532	5,570	9,121
40 or older	10,274	--	--	--	9,364	5,718	--
Marital status							
Married	9,733	3,827	3,704	2,563	8,869	5,553	5,915
Not married 4/	11,088	4,127	4,723	2,375	9,665	5,466	6,655
Dependency status							
Dependent	10,667	4,197	5,420	1,930	9,602	5,560	6,465
Independent	10,698	3,834	2,680	2,840	9,328	5,423	6,485
Housing status							
School-owned	12,853	4,705	--	1,582	11,282	6,058	7,966
Off-campus, not with parents	10,188	3,873	3,285	2,848	8,982	5,323	6,023
With parents	7,550	2,574	--	--	7,219	4,965	4,554
Citizenship							
U.S. citizen	10,676	3,943	4,584	2,269	9,449	5,523	6,399
Resident alien	14,776	--	--	--	12,766	--	--
Nonresident alien	--	--	--	--	--	--	--

Table 4.8--Average amount of aid awarded for the 1986-87 school year to aided postbaccalaureate students enrolled in the fall of 1986, by type of aid, level of study, attendance status, and selected student characteristic--continued

Selected student characteristic	Any aid 1/	Fellowships/ grants 2/	Tuition waivers	Assistantships 3/	Loans		
					Any loans	GSL	Other loans
Field of study							
Law	$7,658	$2,788	$1,976	$2,158	$6,985	$4,969	$4,417
Medicine	13,991	5,168	6,322	3,022	12,155	6,119	8,179
Other medical 6/	10,485	3,456	--	2,355	9,149	5,101	6,035
Theology	4,882	2,595	--	1,160	3,382	--	--

--Too few cases for a reliable estimate.

1/ Includes students who reported a total amount of aid but were not specific about the type of aid.

2/ Includes students who received employer benefits.

3/ Includes students who received teaching or research assistantships and/or participated in work-study programs.

4/ Includes students who were single, separated, divorced, or widowed.

5/ Includes students who majored in life sciences, physical sciences, or mathematics.

6/ Includes chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

than students majoring in law (59.0 percent), general medicine (65.8 percent), or other medical fields (75.3 percent) (table 4.7).

Chapter 5: The Composition of Student Aid Awards

The preceding chapters of this report describe how a single source or type of aid was distributed, by student characteristics or control and level of postsecondary institution. In looking at the tables, such as table 4.1, readers are advised that summing percents across sources of aid will produce a percentage greater than 100, because some students received aid from more than one source. For example, in table 4.1, 27 percent of postbaccalaureate students received aid from the Federal Government and 6 percent received aid from a State government. The percentage of students who received aid from Federal and State governments is not the sum of 27 and 6, because those students who received aid from both sources will be counted twice. To obtain an unduplicated count of students, this chapter will focus on combinations of sources or types of aid. Students will be grouped according to the specific combinations of sources or types of aid they received. In this chapter, the combination of aid sources or types that a student received will be referred to as the student's aid award.

Student Aid Awards, by Sources of Aid

Table 5.1 shows how the various sources[1] of postbaccalaureate students' financial aid were combined to produce student aid awards for postbaccalaureate students enrolled in the fall of 1986. Although a large number of combinations are possible, only a few combinations accounted for most aid awards in the 1986-87 academic year (table 5.1). For example, over one-half of the aided master's students (51.6 percent), three-fourths of the aided doctoral students (74.8 percent), and one-third of the aided first-professional students (33.5 percent) received institutional aid only or Federal and institutional aid combined.[2]

While the single most common source of aid for master's and doctoral students enrolled in the fall of 1986 was institutional aid only (38.4 percent and 59.5 percent of aided students, respectively), only 9 percent of the aided first-professional students received institutional aid only in the 1986-87 academic year. Aided master's students who received institutional aid only received, on average, $7,900; aided doctor's students who received institutional aid only received, on average, $9,900; and aided first-professional students received, on average, $5,800 (table 5.1).

The most common combinations of aid for first-professional students enrolled in the fall of 1986 were from the Federal Government only or from the Federal Government and institutions only (35.2 percent and 24.4 of

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[1]The "other" source of aid is the same as in chapter 4. It represents aid that does not come from a Federal, State, institutional, or employer source. It includes aid provided by corporations, unions, foundations, fraternal organizations, community organizations, etc.

[2]The discussion presented in this chapter is based on multiple (6-way) comparisons of data. All differences specifically cited in the text are statistically significant at the 0.0084 level.

Table 5.1--Unduplicated percent of postbaccalaureate students enrolled in the fall of 1986 who were awarded aid and average amount of aid awarded for the 1986-87 school year, by level of study, and source of aid

Level of study and source of aid 1/	All students	Aided students	Amount of aid for full-time students
	Number of students		Average amount
Total			
Master's	852,340	403,986	$ 7,805
Doctoral	184,483	134,171	10,762
First-professional	303,256	223,098	10,717
	Percent		
Master's			
Institutional only	18.2	38.4	7,894
Employer only	8.0	16.9	4,552
Federal only 2/	7.8	16.4	4,837
Federal and institution only	6.2	13.2	10,264
State only	0.8	1.7	--
Federal, State, and institutional only	0.8	1.7	--
Other only 3/	0.8	1.7	--
All other combinations of aid	4.8	10.0	8,902
Doctoral			
Institution only	43.2	59.5	9,900
Federal and institutional only	11.2	15.3	15,204
Federal only 2/	4.6	6.3	5,784
Employer only	3.6	5.0	--
Institutional and employer only	2.3	3.1	--
State and institutional only	2.1	2.9	--
Institutional and other only	1.3	1.8	--
All other combinations of aid	4.4	6.1	--
First-professional			
Federal only 2/	25.9	35.2	8,089
Federal and institutional only	17.9	24.4	12,764
Federal, State, and institutional only	7.0	9.5	17,089
Institution only	6.7	9.1	5,830
Federal and State only	4.5	6.2	11,435
Federal, institutional, and other only	2.5	3.5	11,351
Federal and other only	2.2	2.9	13,501
All other combinations of aid	6.8	9.3	10,983

--Too few cases for a reliable estimate.

1/ Sources of aid may not total 100 percent because some students were not specific about their source of aid.

2/ This category includes students who received SSIG (State Student Incentive Grants), since it is both a Federal and State program.

3/ Includes aid provided by corporations, unions, foundations, fraternal organizations, community organizations, etc.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

aided students, respectively). Aided first-professional students who received aid from the Federal Government only received, on average, $8,100 and aided first-professional students who received Federal and institutional aid combined received, on average, $12,800 in the 1986-87 academic year (table 5.1).

The next most common combinations of aid for master's students were aid from employers only, the Federal Government only, and Federal and institutional aid combined. Both employer aid only and aid from the Federal Government only provided support to about 16 percent of the aided master's students (16.9 percent and 16.4 percent, respectively), while the combination of Federal and institutional aid only provided support to about 13 percent of the aided master's students. Aided master's students who received these combinations of aid received, on average, about $4,700 from employer aid only and Federal aid only, and $10,300 from Federal and institutional aid combined (table 5.1).

For aided doctoral and first-professional students, the second most common combination of aid was Federal and institutional aid combined (15.3 percent and 24.4 percent, respectively). Aided doctoral and first-professional students who received these combinations of aid received, on average, $15,200 and $12,800, respectively (table 5.1).

Student Aid Awards, by Types of Aid

Table 5.2 provides information on how the various types of student financial aid (fellowships/grants, tuition waivers, assistantships, and loans) were combined for postbaccalaureate students. As shown, combinations of types of aid varied as a function of the student's level of study. For example, while the most common type of aid for master's students was fellowship/grant aid (24.5 percent of aided students), only 12 percent of the aided doctoral students and 7 percent of the aided first-professional students relied solely on fellowships/grants to meet their education expenses. Aided full-time master's students who received only fellowships/grants received, on average, about $5,000 in fellowship/grant awards; full-time doctoral students received, on average, about $7,800; and aided full-time first-professional students received, on average, about $7,000.

Similarly, while close to one-half of the aided first-professional students (46.1 percent) relied on loans only to finance their education in 1986-87, only 14 percent of the aided master's students and 6 percent of the aided doctoral students relied solely on loans. The average amount of aid for full-time first-professional students who received aid only through loans was about $9,100, the average amount of aid for aided full-time master's and doctoral students who received only loans was about $5,100 for each (table 5.2).

Furthermore, while the most common type of aid received by aided doctoral students was a combination of tuition waivers and assistantships (22.5 percent), only 10 percent of the aided master's students received this combination of aid in the 1986-87 academic year. Aided full-time doctoral students who received aid from tuition waivers and assistantships only received, on average, about $9,900; full-time master's students who

Table 5.2--Unduplicated percent of postbaccalaureate students enrolled in the fall of 1986 who were awarded aid and average amount of aid awarded for the 1986-87 school year, by level of study, and type of aid

Level of study and type of aid	All students	Aided students	Amount of aid for full-time students
	Number of students		Average amount
Total			
Master's	852,340	403,986	$ 7,805
Doctoral	184,483	134,171	10,762
First-professional	303,256	223,098	10,717
	Percent		
Master's			
Fellowship/grants only 1/	11.6	24.5	4,989
Loans only	6.8	14.3	5,050
GSL only 2/	5.0	10.6	4,227
Other loans only	1.0	2.1	5,059
GSL and other loans only	0.8	1.6	8,942
Tuition waivers only	5.6	11.8	2,116
Tuition waivers and assistantships only	4.8	10.2	8,612
Assistantships only 3/	4.4	9.3	5,205
Fellowships/grants and loans only	3.1	6.6	8,357
Fellowships/grants, tuition waivers, and assistanships only	2.1	4.5	15,771
All other combinations	8.9	18.8	10,504
Doctoral			
Tuition waivers and assistantships only	16.4	22.5	9,886
Assistantships only 3/	10.1	13.8	6,141
Fellowship/grants only 1/	8.8	12.1	7,772
Fellowships/grants, tuition waivers, and assistantships only	8.1	11.2	17,508
Tuition/waivers only	5.3	7.3	--
Fellowships/grants and assistantships only	5.1	7.0	--
Loans only	4.2	5.8	5,350
GSL only 2/	2.8	3.8	4,512
Other loans only	0.6	0.8	9,565
GSL and other loans only	0.8	1.0	2,358
All other combinations	14.8	20.3	14,018
First-professional			
Loans only	33.9	46.1	9,063
GSL only 2/	13.2	17.9	5,064
Other loans only	3.2	4.4	7,316
GSL and other loans only	17.5	23.7	12,351
Fellowships/grants and loans only	18.6	25.3	13,873
Fellowship/grants only 1/	5.0	6.8	6,986
Fellowships/grants, assistantships, and loans only	3.6	4.9	13,608
Assistantships and loans only	3.5	4.8	11,685
Fellowships/grants, tuition waivers, and loans only	1.7	2.3	15,250
Assistantships only 3/	1.7	2.2	3,869
All other combinations	5.7	7.7	11,602

--Too few cases for a reliable estimate.

1/ Includes students who received employer benefits.

2/ GSL refers to the Guaranteed Student Loan program.

3/ Includes students who received teaching or research assistantships and/or participated in work-study programs.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

were awarded this combination of aid received, on average, about $8,600.

Aided full-time master's and doctoral students who were awarded a combination of fellowships/grants, tuition waivers, and assistantships received, on average, larger aid awards ($15,771 and $17,508, respectively) than aided master's and doctoral students who were awarded other combinations of aid.[3] Four percent of aided master's students and 11 percent of aided doctoral students received this combination of aid in the 1986-87 academic year.

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[3]The reader is cautioned that the variation in the amount of aid awards shown for first-professional students in tables 5.1 and 5.2 are not statistically significant at the 0.0084 level.

Chapter 6: Sources of Financial Support to Postbaccalaureate students

Previous chapters have focused on only one source of support for postbaccalaureate students enrolled in postsecondary institutions in the fall of 1986: financial aid. However, it is also important to consider the other sources of financial support students use to finance their postbaccalaureate education. This chapter will examine family sources of support (i.e., non-financial aid sources of support), individually, in combination with one another, and in combination with student financial aid. In this chapter, family sources of support include parents, relatives, the student's spouse, and the student him/herself.[1]

Tables 6.1 and 6.2 show unduplicated percentage of students enrolled in the fall of 1986, by various combinations of sources of financial support. For this discussion, combinations have been categorized as: 1) financial aid only;[2] 2) parents only; 3) student only; 4) parents and student only; 5) financial aid and parents only; 6) financial aid and student only; and 7) financial aid, parents, and student, that is, "all sources."

The Distribution of Sources of Support

The majority of postbaccalaureate students enrolled in the fall of 1986 relied solely on themselves (27.4 percent) or themselves and financial aid (25.9 percent) to finance their education in 1986-87; 19 percent relied on "all sources" (i.e., financial aid, parents, and student); 10 percent relied on themselves and their parents; 8 percent relied solely on financial aid; and 6 percent relied on their parents and financial aid. Only 4 percent of the postbaccalaureate population relied solely on their parents to finance their graduate or first-professional education (table 6.1).[3]

Sources of financial support varied somewhat by level of study. For instance, for master's students, the most common source of financial support was self-support (36.9 percent); however, for doctoral students, the most common source of support was self-support and some type of financial aid (35.7 percent) and for first-professional students, the most common form of support was a combination of all sources (i.e., financial aid, parents, and themselves) (32.3 percent) (table 6.1 and figure 6.1).

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[1]These four sources have been placed into two groups. Parents and relatives have been combined together and the student and his/her spouse have been placed together. Throughout the remaining discussion, the parent/relative source will be referred to as the parent source and the student/spouse source will be referred to as the student source.

[2]Work-study is included in the financial aid category.

[3]The discussion presented in this chapter is based on multiple (6-way) comparisons of data. All differences specifically cited in the text are statistically significant at the 0.0084 level.

Table 6.1--Unduplicated percent of postbaccalaureate students enrolled in the fall of 1986, by source of support, level of study, and control and level of institution

Control and level of institution	Number of students 1/	Source of support: Financial aid	Family			Financial aid and family		
		Financial aid only	Parents only 2/	Student only 3/	Parents and student only	Financial aid and parents only	Financial aid and student only	Financial aid, parents, and student
Total postbaccalaureate students	1,303,952	7.6	3.9	27.4	10.3	6.1	25.9	18.7
Master's								
Total	821,171	6.9	3.3	36.9	10.5	3.4	25.5	13.4
Public	510,752	5.9	2.8	39.6	11.4	3.4	24.3	12.7
4-year doctoral	335,695	6.8	2.9	34.7	10.8	4.5	25.8	14.5
Other 4-year	175,057	4.0	2.4	49.2	12.5	1.1	21.6	9.2
Private, not-for-profit	310,418	8.7	4.3	32.5	9.1	3.5	27.4	14.5
4-year doctoral	205,764	9.4	5.0	26.3	9.3	4.5	28.1	17.4
Other 4-year	104,655	7.3	2.9	44.7	8.9	1.3	26.1	8.8
Doctoral								
Total	181,751	11.3	1.0	19.8	5.4	6.4	35.7	20.4
Public	115,686	9.1	0.9	22.1	5.2	5.3	35.5	22.1
Private, not-for-profit	66,065	15.2	1.2	15.9	5.8	8.4	36.1	17.4
First-professional								
Total	301,031	7.3	7.1	6.1	12.7	13.2	21.3	32.3
Public	100,579	7.3	6.0	8.9	12.2	11.4	22.5	31.7
Private, not-for-profit	200,452	7.3	7.7	4.7	12.9	14.1	20.7	32.6

1/ Includes only those postbaccalaureate students who reported their sources of support.

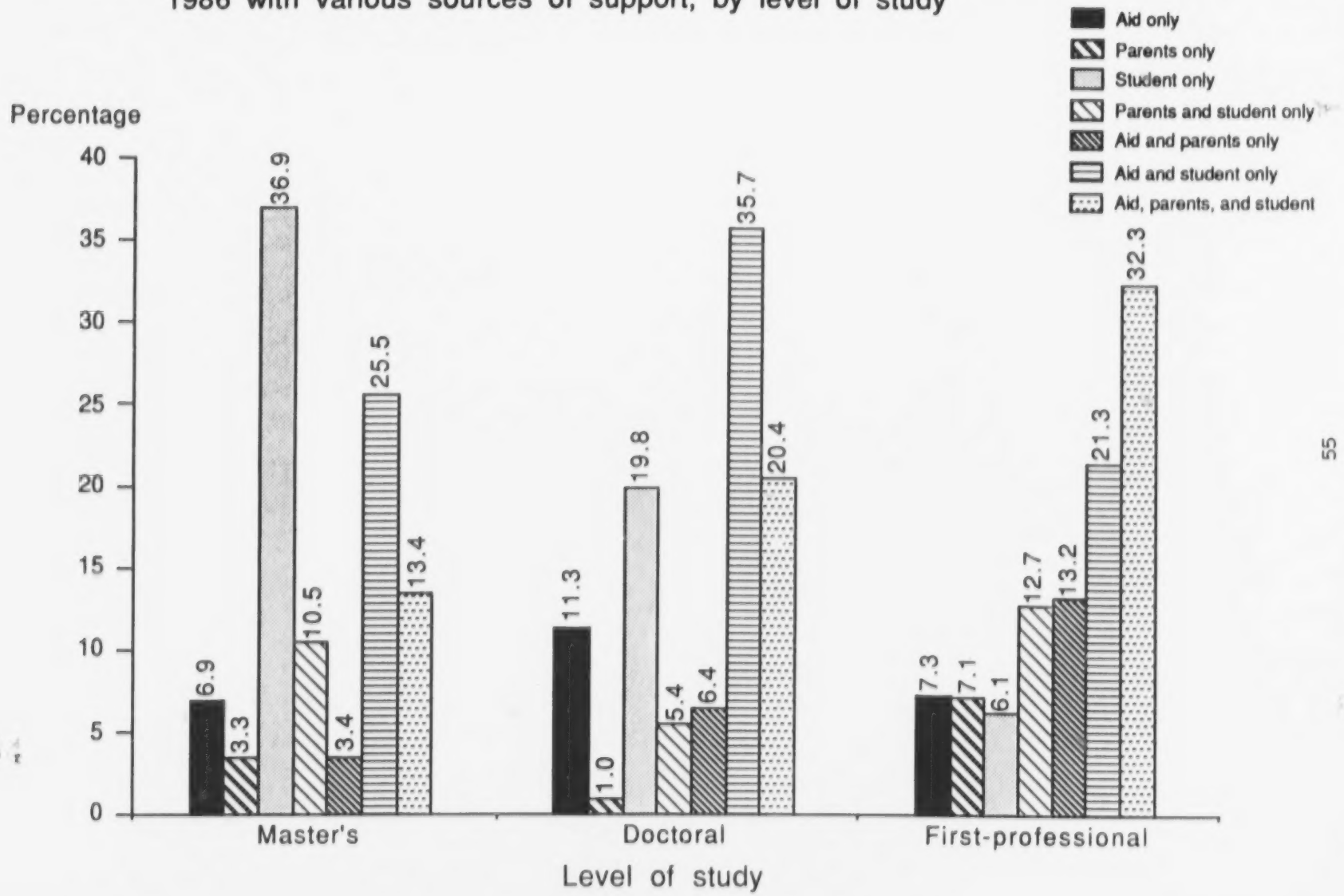
2/ Parent contributions were student-reported. In-kind contributions (i.e., support provided by parents in addition to financial assistance such as use of charge cards or free room and board) were included in the calculation of parent contributions. Includes support received from parents, other relatives, and friends.

3/ Includes support from student and student's spouse, if applicable.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Figure 6.1-Percentage of postbaccalaureate students enrolled in the fall of 1986 with various sources of support, by level of study



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Interestingly, though the proportions change somewhat, these patterns of support generally remained the same regardless of type and control of institution (table 6.1).

Sources of Support, by Selected Student Characteristics

Table 6.2 indicates that patterns of financing vary somewhat by selected student characteristics. For example, though as a whole the most common form of financial support for master's students was self-support (36.9 percent), only 8 percent of the youngest master's students (23 or younger) relied solely on themselves to meet their education expenses. Instead, younger students tended to depend on a combination of all sources of support (i.e., financial aid, parents, and themselves) (33.6 percent).

Full-time master's students and dependent master's students also were less likely than master's students, as a whole, to rely solely on themselves for financial support. That is, while 37 percent of the master's students relied on themselves only, 14 percent of the full-time master's students, and 12 percent of the dependent master's students relied only on themselves to meet their education expenses (table 6.2).

Among doctoral students, there were also some exceptions to overall patterns of financing that are worth highlighting. For instance, though as a whole, the highest percentage of doctoral students depended on a combination of self-support and financial aid to meet education expenses (35.7 percent), doctoral students majoring in education and older doctoral students (40 or older) were as likely to rely on self-support alone (44.9 percent and 48.1 percent, respectively) as they were on the combination of self-support and financial aid (35.4 percent and 28.3 percent, respectively) (table 6.2).

Furthermore, though the highest proportion of first-professional students depended on a combination of "all sources" of support to meet their education expenses, the most common form of support for married students was themselves and some form of financial aid or financial aid only (table 6.2).[4]

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[4]Other estimates shown in table 6.2 may appear to be exceptions to doctor's and first-professional students' overall financing patterns; however, these estimates are not cited because they are not statistically significant at the 0.0084 level.

Table 6.2--Unduplicated percent of postbaccalaureate students enrolled in the fall of 1986, by source of support, level of study, and selected student characteristic

Selected student characteristic	Number of students 1/	Source of support: Financial aid	Family			Financial aid and family		
		Financial aid only	Parents only 2/	Student only 3/	Parents and student only	Financial aid and parents only	Financial aid and student only	Financial aid, parents, and student
Total postbaccalaureate student	1,303,952	7.6	3.9	27.4	10.3	6.1	25.9	18.7
				Master's				
Total	821,171	6.9	3.3	36.9	10.5	3.4	25.5	13.4
Gender								
Male	361,888	8.4	4.1	32.5	9.4	3.6	26.3	15.7
Female	459,283	5.8	2.8	40.4	11.4	3.2	24.9	11.5
Race/ethnicity								
American Indian	4,586	--	--	--	--	--	--	--
Asian American	59,458	7.7	14.4	19.0	12.9	8.1	14.5	23.4
Black, non-Hispanic	45,942	6.0	2.2	33.4	7.8	4.3	34.4	11.9
Hispanic	32,825	8.1	4.1	32.8	14.0	5.3	23.1	12.6
White, non-Hispanic	672,333	6.8	2.4	39.0	10.2	2.8	26.1	12.7
Age								
23 or younger	81,723	5.4	10.2	8.3	15.8	11.8	14.9	33.6
24-26	182,813	6.5	4.8	20.3	18.0	5.6	24.1	20.7
27-29	133,898	8.6	3.8	32.1	10.0	2.4	27.8	15.2
30-34	161,117	7.3	1.5	43.4	7.5	1.6	29.2	9.6
35-39	123,804	7.1	1.5	51.1	7.7	1.2	27.3	4.1
40 or older	137,670	6.1	0.6	60.5	4.0	0.6	25.5	2.6
Marital status								
Married	414,711	6.4	1.3	51.6	5.1	1.1	28.4	6.2
Not married 4/	403,453	7.4	5.4	21.9	16.1	5.8	22.5	20.9
Attendance status								
Full-time	273,639	8.1	5.6	14.0	10.7	6.2	29.3	26.1
Part-time	495,173	6.0	2.0	49.9	10.3	1.7	23.2	6.8
Dependency status								
Dependent	231,547	3.6	9.3	12.4	26.4	8.7	10.6	28.9
Independent	581,091	8.1	0.8	46.9	4.2	1.3	31.3	7.3
Housing status								
School-owned	54,730	11.2	8.7	5.3	10.8	12.4	22.5	29.2
Off-campus, not with parents	690,481	7.3	2.4	42.1	7.1	2.2	27.8	11.1
With parents	75,609	0.9	8.4	12.1	41.7	7.5	6.7	22.6
Citizenship								
U.S. citizen	610,632	6.8	2.5	37.3	10.2	2.9	27.3	13.0
Resident alien	21,976	10.6	11.2	21.0	9.0	10.4	18.0	19.8
Nonresident alien	32,649	12.6	10.2	8.1	12.2	13.1	16.2	27.7

Table 6.2--Unduplicated percent of postbaccalaureate students enrolled in the fall of 1986, by source of support, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students 1/	Source of support: Financial aid	Family			Financial aid and family		
		Financial aid only	Parents only 2/	Student only 3/	Parents and student only	Financial aid and parents only	Financial aid and student only	Financial aid, parents, and student
Field of study								
Arts and humanities	67,550	10.1	4.3	21.1	10.8	6.5	24.7	22.5
Business	158,784	7.8	5.4	39.0	8.9	2.1	25.7	11.0
Education	180,845	3.6	1.8	53.1	9.4	1.5	23.3	7.2
Engineering	39,076	9.5	2.5	21.7	9.4	7.9	27.5	21.5
Natural sciences 5/	90957	8.7	1.9	24.4	9.3	5.0	31.2	19.6
Social sciences	82,615	8.7	2.4	26.8	12.5	4.1	28.7	16.8
Other	60,817	5.9	7.2	26.4	13.9	5.1	25.3	16.1
				Doctoral				
Total	181,751	11.3	1.0	19.8	5.4	6.4	35.7	20.4
Gender								
Male	106,178	13.1	1.4	15.5	6.0	6.5	37.2	20.3
Female	75,573	8.8	0.4	25.9	4.5	6.3	33.6	20.5
Race/ethnicity								
American Indian	386	--	--	--	--	--	--	--
Asian American	27,338	16.1	2.1	7.2	8.0	8.1	28.5	29.9
Black, non-Hispanic	9,742	15.8	--	39.7	1.5	3.1	29.1	10.8
Hispanic	7,594	13.1	--	28.0	2.9	21.8	25.1	9.1
White, non-Hispanic	134,314	10.0	0.9	20.2	5.4	5.5	38.0	20.1
Age								
23 or younger	13,258	18.3	--	1.1	0.6	18.8	29.3	32.0
24-26	30,178	17.0	2.1	2.9	8.2	10.7	33.0	26.1
27-29	36,477	10.0	1.1	7.4	6.4	6.1	41.5	27.4
30-34	47,174	9.6	0.3	20.5	5.5	4.2	40.9	18.9
35-39	25,999	9.2	1.6	34.1	5.3	3.9	31.3	14.7
40 or older	28,665	8.5	0.5	48.1	3.3	2.6	29.3	7.8
Marital status								
Married	91,190	8.1	0.6	28.0	4.5	4.5	39.8	14.4
Not married 4/	90,314	14.5	1.4	11.6	6.3	8.4	31.3	26.5
Attendance status								
Full-time	96,282	14.0	0.8	7.2	3.4	9.0	37.6	28.0
Part-time	67,489	5.8	0.6	38.3	7.2	3.0	34.2	11.0
Dependency status								
Dependent	49,920	8.7	2.5	5.6	14.3	13.6	12.4	42.9
Independent	127,930	12.3	0.4	25.8	2.1	3.4	44.2	11.8
Housing status								
School-owned	26,024	11.2	1.6	4.3	3.0	14.7	35.0	30.1
Off-campus, not with parents	148,558	11.0	0.7	23.2	4.9	4.9	36.7	18.7
With parents	6,135	--	--	--	--	--	--	--

Table 6.2--Unduplicated percent of postbaccalaureate students enrolled in the fall of 1986, by source of support, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students 1/	Source of support: Financial aid	Family			Financial aid and family		
		Financial aid only	Parents only 2/	Student only 3/	Parents and student only	Financial aid and parents only	Financial aid and student only	Financial aid, parents, and student
Citizenship								
U.S. citizen	121,956	8.2	0.8	22.7	5.5	5.1	38.5	19.2
Resident alien	7,860	14.9	--	9.5	6.4	6.8	29.4	33.0
Nonresident alien	21,918	19.9	1.9	7.0	3.9	13.0	26.5	27.8
Field of study								
Arts and humanities	26,918	9.7	1.5	21.1	3.6	6.5	36.7	20.7
Business	7,033	1.9	--	18.1	8.5	2.1	37.7	31.7
Education	28,919	3.1	--	44.9	7.6	0.6	35.4	8.4
Engineering	12,951	17.1	--	4.3	3.0	10.9	44.7	20.1
Natural sciences 5/	45,047	18.5	0.5	6.7	2.7	10.3	37.2	24.1
Social sciences	31,952	9.5	0.5	24.8	8.9	3.1	31.0	22.2
Other	10,583	11.2	--	19.8	5.0	8.4	29.6	25.9
				First-professional				
Total	301,031	7.3	7.1	6.1	12.7	13.2	21.3	32.3
Gender								
Male	187,687	7.1	7.8	6.2	14.9	12.0	19.2	32.8
Female	113,344	7.6	6.0	5.9	9.0	15.2	24.7	31.6
Race/ethnicity								
American Indian	1,406	--	--	--	--	--	--	--
Asian American	15,819	8.7	9.5	2.7	14.9	19.8	10.4	33.9
Black, non-Hispanic	11,573	13.3	3.0	6.6	3.9	21.6	18.3	33.3
Hispanic	14,320	15.8	8.0	0.5	9.6	20.8	19.4	25.9
White, non-Hispanic	256,777	6.5	7.1	6.6	13.2	12.1	22.3	32.3
Age								
23 or younger	81,052	3.6	9.6	1.0	17.1	14.8	9.3	44.7
24-26	117,090	6.7	9.3	3.0	14.8	17.1	16.1	33.0
27-29	41,644	10.2	4.0	8.7	8.0	11.8	29.0	28.3
30-34	35,977	10.2	2.8	11.7	7.7	6.7	41.1	19.9
35-39	15,229	13.1	0.7	18.9	3.4	1.7	45.9	16.3
40 or older	10,039	13.9	--	33.1	4.3	1.4	37.1	10.2
Marital status								
Married	86,950	8.3	2.0	16.0	8.8	4.6	37.2	23.0
Not married 4/	214,012	6.9	9.2	2.1	14.2	16.7	14.8	36.1
Attendance status								
Full-time	268,959	7.3	7.6	4.6	12.1	13.9	21.2	33.4
Part-time	19,014	6.0	2.3	30.5	17.0	1.7	28.4	14.0
Dependency status								
Dependent	159,883	3.5	12.2	1.2	21.4	17.7	5.3	38.6
Independent	139,639	11.8	1.3	11.4	2.7	7.8	39.7	25.3
Housing status								
School-owned	72,036	7.3	8.6	1.0	14.6	18.6	12.6	37.3
Off-campus, not with parents	208,115	7.9	6.4	8.3	11.1	10.8	25.9	29.6
With parents	20,881	1.1	9.2	2.1	21.7	19.0	4.8	42.2

Table 6.2--Unduplicated percent of postbaccalaureate students enrolled in the fall of 1986, by source of support, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students 1/	Source of support: Financial aid	Family			Financial aid and family		
		Financial aid only	Parents only 2/	Student only 3/	Parents and student only	Financial aid and parents only	Financial aid and student only	Financial aid, parents, and student
Citizenship								
U.S. citizen	261,790	6.8	7.3	5.3	11.9	13.3	22.2	33.2
Resident alien	6,563	13.3	1.2	1.1	9.8	25.1	7.7	41.9
Nonresident alien	3,521	--	--	--	--	--	--	--
Field of study								
Law	112,686	3.7	5.6	10.8	15.0	6.1	25.7	33.0
Medicine	112,739	9.1	10.4	1.3	12.7	21.0	14.0	31.4
Other medical 6/	49,229	10.6	5.3	3.1	8.6	15.1	21.3	35.9
Theology	13,705	8.0	3.0	17.9	10.3	5.5	26.3	28.9

--Too few cases for a reliable estimate.

1/ Includes only those postbaccalaureate students who reported their sources of support.

2/ Parent contributions were student-reported. In-kind contributions (i.e., support provided by parents in addition to financial assistance, such as use of charge cards or free room and board) were included in the calculations of parent contributions. Includes support received from parents, other relatives, and friends.

3/ Includes support from student and student's spouse, if applicable.

4/ Includes students who were single, separated, divorced, or widowed.

5/ Includes students majoring in life sciences, physical sciences, or mathematics.

6/ Includes chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Chapter 7: Summary and Conclusions

As the data in the report indicate, graduate and first-professional students in the United States are a diverse population in terms of their personal characteristics and enrollment status. For example, a higher proportion of females than males tend to seek a master's degree; whereas, a higher proportion of males than females enroll in a doctoral or first-professional program. On the other hand, among doctoral students, a higher proportion have a minority racial/ethnic background than either master's or first-professional students, and a higher proportion of doctoral students have nonresident alien citizenship status. Furthermore, first-professional and doctoral students are younger, in general, than master's degree students, suggesting a tendency for individuals to seek a doctoral or first-professional degree immediately upon completion of a baccalaureate education. This is particularly evident among first-professional students, since 65 percent of them are under 27 years old.

Unlike first-professional or doctoral students, master's degree students, in addition to being older, also seem to attend school in conjunction with other activities, since they are much more likely to attend school part time (65 percent) than either doctoral (42 percent) or first-professional students (6.6 percent), and to stop out of school in the middle of the school year more frequently than other postbaccalaureate students. Additionally, master's degree students seem to enroll in fields that require additional credentials for professional advancement (business and education). Doctoral and first-professional students tend to major in fields (natural and social sciences for doctoral students) that are likely to require additional education to obtain initial employment.

The patterns of financing a postbaccalaureate education seem to reflect the differential enrollment patterns and educational objectives among master's, doctoral, and first-professional students. In considering the pattern of financing among postbaccalaureate students, the cost of that education and the various routes taken to meet these costs must be examined concurrently.

As anticipated, attending graduate or first-professional school part time costs less than attending school full time (about one-half as much overall, and 43 percent as much for master's students, 56 percent as much for doctoral students, and 45 percent as much for first-professional students). Finally, attending a public rather than a private institution full time costs, on the average, about 50 percent less for full-time master's degree students, 43 percent less for full-time doctoral students and 55 percent less for full-time first-professional students. Among part-time graduate students, the cost differentials of attending a public rather than private institution were smaller--about 30 percent for part-time master's and doctoral-level students.

The second consideration in examining patterns of financing a postbaccalaureate education are the sources available to help finance that education. About 37 percent of master's degree students received no help in financing their education other than from their education other than from their spouse. Similarly, about one-half of part-time postbacca-

laureate students received no help. On the other hand, of those postbaccalaureate students who received some assistance in financing their education, 58 percent received it through some type of financial aid.

As with costs, the type of financial aid received differed quite markedly by the level of degree sought, the attendance status of the student, and even by the student's major field of study. While 74 percent of first-professional students received some aid, almost two-thirds of them received loan aid, and over one-third received only loans. Moreover, full-time first-professionals who received loans, on the average, borrowed almost $9,500 for the 1986-87 academic year--about 75 percent of their total costs. In contrast, about the same proportion of doctoral students received aid (73 percent), yet only 16 percent received a loan, and only 4 percent relied only on loans. Full-time doctoral students who received a loan borrowed only about $5,000 for the 1986-87 academic year, which was slightly more than one-half the level of first-professional student loans. Doctoral students tended to be funded through assistantships, tuition waivers, and fellowships/grants, with over one-half of them receiving some combination of these three types of aid.

As with doctoral students, only 16 percent of master's level students received a loan, and about 7 percent relied solely on loans to help finance their postsecondary education. However, unlike doctoral students, less than one-half of master's degrees students received any aid, and only 31 percent received some combination of tuition waivers, assistantships, and fellowships/grants.

It is noteworthy that, among graduate students, both the proportion receiving some aid and the type of aid received varied widely by the field of study in which students were enrolled. For example, graduate students majoring in the natural sciences or engineering were much more likely to receive some financial aid than graduate students in education; additionally, graduate students in the social sciences, while receiving aid in relatively high proportions, received loans more frequently than graduate students in any other area of study.

Only three nonfamily sources of support provided the bulk of financial assistance to postbaccalaureate students in the 1986-87 school year--the institution, the Federal Government, and the student's employer. However, employers were a significant source of financial aid only to master's degree students. Eight percent of all master's degree students received aid only from their employer, and individuals who received aid from their employer tended not to receive aid from any other source.

For all graduate students, both master's level and doctoral level, the institution was the major source of aid; 28 percent of master's students and 67 percent of doctoral students received some institutional aid. In fact, for 18 percent of master's students and 43 percent of doctoral students, the institution was the only source of aid. Institutions also provided some aid to a substantial proportion of first-professional students (37 percent). However, for first-professional students, the Federal Government was the major source of aid, providing aid to over 60 percent of them. For one-quarter of enrolled first-professional students, the Federal Government was the only source of aid. Surprisingly, the proportion of students receiving institutional aid in private institutions

was not appreciably greater than the proportion receiving institutional aid in public institutions.

In order to provide a clearer picture of how postbaccalaureate students finance their education, several additional findings are worth noting. First, financial aid to postbaccalaureate students is much less prevalent among students who attend school part time than among full-time students. The proportion of full-time postbaccalaureate students who receive aid (74 percent) is almost twice that of part-time students (38 percent). Since most master's degree students attend school part time (65 percent), many of the differences in financial aid awards between master's and doctoral-level students noted above may be due to differences in attendance status rather than due to the level of degree sought. Similarly, while the data indicated substantial differences in financial aid status among male and female graduate students (males were more likely to have aid than females), a higher proportion of females than males tend to enroll in, and complete, graduate programs in fields such as education (73 percent of master's degrees and 53 percent of doctoral degrees in education were awarded to women in 1985-86), the area of study in which enrollees were least likely to receive financial aid.

Finally, it must be noted that financial aid is even more of a factor for postbaccalaureate students than for undergraduate students. A postbaccalaureate education tends to cost more to obtain, on the average, than an undergraduate education--an average of 83 percent more for full-time students living off campus, not with parents. And, only 39 percent of postbaccalaureate students received some help in financing their postsecondary education from parents, other relatives, or friends; whereas, almost two-thirds of undergraduates got assistance from this source in the 1986-87 school year. More than one-half (53 percent) of postbaccalaureate students rely on their own resources or on their own resources in combination with some financial aid to meet the costs of obtaining their education.

Glossary

College Work-study (CWS) Program. (Higher Education Act of 1965, as amended, Title IV-C; 42 U.S.C. 2751 et seq.) A campus-based Federal program designed to stimulate and promote the part-time employment of undergraduate and graduate students with demonstrated financial need in eligible institutions of higher education who need earnings from employment to finance their course of study. This program provides grants to institutions for partial reimbursement of wages paid to students.

Dependent Student. A student dependent on his or her parents or guardians for financial support. For financial aid purposes, a student is classified as dependent unless the definition of independent student is met.

Doctoral Degree. An award that requires work at the graduate level and terminates in a doctoral degree. The doctoral degree classification includes such degrees as Doctor of Education; Doctor of Juridical Science; Doctor of Public Health; and the Doctor of Philosophy degree in any field such as agronomy, food technology, education, engineering, public administration, ophthalmology, or radiation. For the Doctor of Public Health degree, the prior professional degree is generally earned in the closely-related professional field of medicine or of sanitary engineering.

Federal Aid. Student financial aid whose source of origin is a Federal agency. This aid can either be provided/funded by or administered by a Federal agency. This includes, but is not limited to, U.S. Department of Education, Department of Health and Human Services, Department of Defense, Veterans Administration, Department of Agriculture, and National Science Foundation.

Fellowship. Grants-in-aid and trainee stipends to graduate students. Excludes funds for which services to the institution must be rendered, such as payments for teaching, or student loans.

Financial Aid. Consists of grants, loans, and work-study from sources other than family or self to help students finance a postsecondary education.

Financial Aid Combinations. The total financial aid award received by a student. Combinations of aid may include grants, loans, and/or work-study from a variety of sources (Federal, State, institution, other).

First-Professional Student. A student enrolled in any of the following degree programs:

Chiropractic (D.C. or D.C.M.)
Dentistry (D.D.S. or D.M.D.)
Medicine (M.D.)
Optometry (O.D.)
Osteopathic Medicine (D.O.)
Pharmacy (D.Phar.)
Podiatry (Pod.D. or D.P.)
Veterinary Medicine (D.V.M.)
Law (L.L.B., J.D.)
Theology (M.Div. or M.H.L. or B.D.)

4-Year Doctoral Institution. Institutions or subsidiary elements whose purpose is the provision of postsecondary education and confer at least a doctoral or first-professional degree in one or more programs.

Graduate Student. A student who holds a baccalaureate or first-professional degree, or equivalent, and is taking courses at the postbaccalaureate level. These students may or may not be enrolled in a specific graduate program.

Grants. A type of student financial aid that does not require repayment or employment. It is usually awarded on the basis of need, possibly combined with some skills or characteristics the student possesses.

Guaranteed Student Loan (GSL). (Higher Education Act of 1965, as amended, Title IV-B; 20 U.S.C. 1071 et seq.) A long-term, low-interest loan program administered by the Federal Government through guarantee agencies. Students borrow money for education expenses directly from banks and other lending institutions.

Independent Student. A student independent of financial support from his or her parents or guardians. The factors considered are: the student's age, length of time away from parent's home, status as a dependent for tax purposes, and the amount of financial support provided by the parents to the student.

Institution Aid. Student financial aid whose source of origin is the postsecondary institution. This aid is provided/funded by the institution.

Less Than 2-Year Institution. Institutions or subsidiary elements whose purpose is the provision of postsecondary education and all of whose programs are less than 2 years long. These institutions must offer, at a minimum, one program at least 3 months long that results in a terminal occupational award, or is creditable toward a formal 2-year or higher award.

Loans. A type of student financial aid which advances funds and which is evidenced by a promissory note requiring the recipient to repay the specified amount(s) under prescribed conditions.

Master's Degree. An award that requires the successful completion of a program of study of at least the full-time equivalent of 1 but not more than 2 academic years of work beyond the bachelor's degree.

National Direct Student Loan (NDSL). (Higher Education Act of 1965, as amended, Title IV-E; 20 U.S.C. 1087aa et seq.) Now known as the Carl D. Perkins loan program. A campus-based program that sets up funds at higher education institutions for making long-term, low-interest loans to graduate, undergraduate, and vocational students attending school at least half time.

Nonresident Alien. A person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain in the United States indefinitely.

Off-Campus Housing. Students living in their own or a shared off-campus residence, not with their parents, guardians, or other relatives.

Other Aid. Non-Federal, non-State, or noninstitutional sources of student financial aid. This includes aid provided by corporations, employers, unions, foundations, fraternal organizations, community organizations, and other sources.

Other 4-Year Institution. Institutions or subsidiary elements whose purpose is the provision of postsecondary education and confer at least a baccalaureate or master's degree in one or more programs. These institutions cannot award higher than a master's degree.

Pell Grant. (Higher Education Act of 1965, as amended, Title IV-A-1; 20 U.S.C. 1070a et seq.) A Federal student financial aid entitlement program that provides eligible undergraduate students who have not yet completed a baccalaureate program with need-based grants to help them defray the cost of postsecondary education. (Note: Grant limitations are subject to change with revised legislation.)

Perkins Loan. (Higher Education Act of 1965, as amended, Title IV-E; 20 U.S.C. 1087aa et seq.) Formerly known as the National Direct Student Loan program. A campus-based program that sets up funds at higher education institutions for making long-term, low-interest loans to graduate, undergraduate, and vocational students attending school at least half time.

PLUS (Parent Loans for Undergraduate Students). (Higher Education Act of 1965, as amended, Title IV-B; 20 U.S.C. 1071 et seq.) A Federal program that allows parents of dependent undergraduate, graduate, and first-professional students (prior to 1987 only dependent undergraduate students) to make long-term loans for their children's education expenses. These loans are made directly by banks and other lending institutions.

PLUS/ALAS (Auxiliary Loans to Assist Students). (Higher Education Act of 1965, as amended, Title IV-B; 20 U.S.C. 1071 et seq.) Currently known as Supplemental Loans for Students (SLS). A Federal program that allows independent undergraduate students, and graduate/professional students to make long-term loans for their education expenses. These loans are made directly by banks and other lending institutions.

Postbaccalaureate Student. A student with a bachelor's degree, enrolled in graduate or first-professional courses.

Private, For-Profit Institution. An educational institution that is under private control and whose profits, derived from revenues, are subject to taxation.

Private, Not-For-Profit Institution. An educational institution which is controlled by an individual or agency other than a State, a subdivision of a State, or the Federal Government, which is usually supported primarily by other than public funds, and the operation of whose program rests with other than publicly elected or appointed officials.

Public Institution. An educational institution operated by publicly elected or appointed school officials in which the program and activities are under the control of these officials and which is supported primarily by public funds.

Race/Ethnicity. Categories used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories do not denote scientific definitions of anthropological origins.

> American Indian or Alaskan Native. A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.
>
> Asian American or Pacific Islander. A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or Pacific Islands. This includes people from China, Japan, Korea, the Philippine Islands, Samoa, India, and Vietnam.
>
> Black, Non-Hispanic. A person having origins in any of the black racial groups of Africa (except those of Hispanic origin).
>
> Hispanic. A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
>
> White, Non-Hispanic. A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

School-Owned/Controlled Housing. A school-owned or controlled building that provides living quarters for students. These are typically on-campus or off-campus dormitories, residence halls, or other facilities.

Source of Support. The origin of different sources of support to help the student defray the cost of a postsecondary education.

State Aid. Student financial aid whose source of origin is a State agency. This aid can either be provided/funded by or administered by a State agency.

State Student Incentive Grant (SSIG). (Higher Education Act of 1965, as amended, Title IV-A-3; 20 U.S.C. 1070c et seq.) Federal funds are allocated to States to encourage the establishment and expansion of State scholarship/grant assistance to postsecondary students with substantial financial need. Students apply to the State agency either directly or through the institution.

Student Aid Report (SAR). The official report issued to students by the U.S. Department of Education for those students who have applied for a Pell Grant. The SAR must be submitted to the financial aid office of the institution in which the student enrolls in order to certify his/her eligibility for a Pell Grant and also may be used in determining the remaining financial need of the student.

Student Attendance Status

Full-Time First-Professional:	As defined by the institution.
Full-Time Graduate:	A student enrolled for 9 or more semester credits, or 9 or more quarter credits per academic term.
Full-Time Undergraduate:	A student enrolled for 12 or more semester credits, or 12 or more quarter credits per academic term or 24 clock hours per week in institutions which measure progress in terms of clock hours.
Part-Time First-Professional:	As defined by the institution.
Part-Time Graduate:	A student enrolled for either 8 semester credits or less, or 8 quarter credits or less per academic term.
Part-Time Undergraduate:	A student enrolled for either 11 semester credits or less or 11 quarter credits or less per academic term or less than 24 clock hours per week in institutions which measure progress in terms of clock hours.

Student Expenditures. The cost to the student of attending a postsecondary institution. Student expenditures usually include tuition and fees, food and housing, books and supplies, personal expenses, child care, transportation, and other miscellaneous expenses.

Supplemental Loans for Students (SLS). (Higher Education Act of 1965, as amended, Title IV-B; 20 U.S.C. 1071 et seq.) Formerly known as Plus/Alas program. A Federal program that allows independent undergraduate students, and graduate/professional students, to make long-term loans for their education expenses. These loans are made directly by banks and other lending institutions.

Supplementary Education Opportunity Grant (SEOG). (Higher Education Act of 1965, as amended, Title IV-A-2; 20 U.S.C. 1070b et seq.) A campus-based program that provides financial assistance to undergraduate students, who have not yet completed a baccalaureate program, with demonstrated financial need to enable them to attend college. Priority for SEOG awards must be given to Pell Grant recipients. The grants are made directly to institutions of higher education, which select students for the awards. (Note: Grant limitations are subject to change with revised legislation.)

Title IV Programs. Those Federal student aid programs administered within the Department of Education and authorized under Title IV of the Higher Education Act of 1965, as amended. Title IV programs encompass Pell Grants, Perkins (formerly NDSL) loans, College Work-Study (CWS), Supplemental Education Opportunity Grants (SEOG), Guaranteed Student Loans (GSL), Supplemental Loans for Students (SLS, formerly ALAS), Parent loans for Undergraduate Students (PLUS), and State Student Incentive Grants (SSIG). Funds for these programs are appropriated annually by Congress.

Tuition and Fees. Amount of money charged to students for instructional services (tuition) and additional services that the tuition charge does not cover (fees).

2-Year Institution. Institutions or subsidiary elements whose purpose is the provision of postsecondary education and confer at least a 2-year formal award (certificate or associate degree) or have a 2-year program that is creditable toward a baccalaureate or higher degree in one or more programs. These institutions cannot award a baccalaureate degree.

Undergraduate Student. A student enrolled in a 4-year or 5-year baccalaureate degree program, in an associate degree program, or in a vocational or occupationally specific program below the baccalaureate level.

Work-Study. A campus-based program designed to stimulate and promote the part-tme employment of undergraduate and graduate students with demonstrated financial need. The work-study program is distinquished from CWS in that it is a generic term used to refer to programs that encourage the part-time employment of postsecondary students, regardless of the source of funding.

Appendix A: Additional Tables

Table A.1--Postbaccalaureate students enrolled in the fall of 1986, by aid status, source of aid, attendance status, level of study, and control and level of institution

Control and level of institution	Number of students 1/	Nonaided	Source of aid (in percent) 2/					
			Any aid 3/	Federal	State	Institutional	Employer	Other 4/
				Full-time				
Total postbaccalaureate students	645,571	25.7	74.3	44.3	9.9	48.1	3.9	6.0
Total master's	277,705	31.3	68.7	31.9	6.2	47.6	5.9	4.2
Public	171,541	32.5	67.5	29.3	6.1	48.0	4.7	2.6
4-year doctoral	133,975	29.2	70.8	28.8	5.3	51.3	4.6	2.9
Other 4-year	37,566	44.4	55.6	31.0	9.1	36.2	5.1	1.8
Private, not-for-profit	106,163	29.4	70.6	36.1	6.2	47.1	7.9	6.7
4-year doctoral	85,814	27.9	72.1	35.6	6.1	50.6	7.8	7.3
Other 4-year	20,349	35.8	64.2	38.2	6.7	32.1	8.4	4.0
Total doctoral	96,990	12.1	87.9	22.9	5.6	76.3	6.3	3.2
Public	59,207	10.1	89.9	22.5	7.0	77.5	6.5	3.6
Private	37,783	15.3	84.7	23.7	3.4	74.5	6.0	2.7
Total first-professional	270,876	24.7	75.3	64.7	15.2	38.4	1.0	8.8
Public	87,231	24.5	75.5	64.6	13.5	32.6	1.2	9.3
Private	183,645	24.8	75.2	64.8	16.0	41.2	1.0	8.6
				Part-time				
Total postbaccalaureate students	608,577	61.8	38.2	10.1	2.0	20.3	11.1	1.5
Total master's	519,803	64.1	35.9	9.2	1.7	17.4	11.9	1.2
Public	330,910	67.3	32.7	7.4	2.1	18.7	8.4	1.1
4-year doctoral	189,368	64.7	35.3	8.3	2.1	19.8	9.7	1.5
Other 4-year	141,542	70.9	29.1	6.2	2.0	17.2	6.8	0.5
Private, not-for-profit	188,893	58.4	41.6	12.4	1.2	15.0	17.9	1.4
4-year doctoral	109,190	54.9	45.1	14.0	1.4	17.6	18.9	1.3
Other 4-year	79,702	63.1	36.9	10.1	0.8	11.5	16.6	1.5
Total doctoral	69,513	47.6	52.4	11.1	2.7	42.3	6.9	1.6
Public	51,418	50.1	49.9	11.8	2.8	42.3	5.1	1.6
Private	18,095	40.5	59.5	9.1	2.2	42.1	11.7	1.8
Total first-professional	19,261	50.5	49.5	30.4	5.3	19.4	7.0	7.9
Public	7,625	56.6	43.4	18.0	7.3	24.3	7.7	9.9
Private	11,636	46.5	53.5	38.4	4.0	16.2	6.5	6.6

1/ Includes only students whose attendance status was known.

2/ Percents added across the various sources may total more than 100 because some students received aid from multiple sources.

3/ Includes students who reported they were awarded aid but were not specific about the source of aid.

4/ Includes aid provided by corporations, unions, foundations, fraternal organizations, community organizations, etc.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Table A.2--Postbaccalaureate students enrolled in the fall of 1986 who were awarded aid, by type of aid, attendance status, level of study, and control and level of institution

Control and level of institution	Number of students 1/	Type of aid 2/ (in percent)						
		Any aid 3/	Fellowships/ grants 4/	Tuition waivers	Assistantships 5/	Loans		
						Any loans	GSL	Other loans
				Full-time				
Total postbaccalaureate students	645,571	74.3	31.7	21.5	27.5	44.1	39.4	24.2
Total master's	277,705	68.7	28.5	27.6	32.1	31.8	27.4	11.2
Public	171,541	67.5	22.8	33.1	36.9	28.2	24.6	7.9
4-year doctoral	133,975	70.8	24.8	36.4	38.8	27.6	24.0	7.8
Other 4-year	37,566	55.6	15.6	21.4	30.0	30.6	26.9	8.3
Private	106,163	70.6	37.6	18.7	24.4	37.5	32.0	16.6
4-year doctoral	85,814	72.1	39.3	21.8	26.9	36.2	31.6	17.2
Other 4-year	20,349	64.2	30.5	5.8	13.8	43.1	33.7	14.3
Total doctoral	96,990	87.9	41.1	47.7	60.6	20.3	16.5	6.9
Public	59,207	89.9	35.7	49.6	66.3	20.1	16.7	4.9
Private	37,783	84.7	49.5	44.9	51.5	20.6	16.2	10.0
Total first-professional	270,876	75.3	31.8	5.7	10.9	65.3	59.8	43.7
Public	87,231	75.5	31.6	5.8	11.0	64.1	59.8	37.8
Private	183,645	75.2	31.8	5.7	10.8	65.8	59.9	46.4
				Part-time				
Total postbaccalaureate students	608,577	38.2	18.2	12.9	12.1	8.5	7.4	2.1
Total master's	519,803	35.9	18.2	11.3	9.2	7.5	6.6	1.7
Public	330,910	32.7	14.4	12.7	11.1	5.8	4.9	1.3
4-year doctoral	189,368	35.3	15.7	13.0	13.7	7.2	6.5	1.4
Other 4-year	141,542	29.1	12.7	12.2	7.6	3.9	2.9	1.1
Private	188,893	41.6	24.9	8.9	5.9	10.4	9.4	2.6
4-year doctoral	109,190	45.1	27.1	11.2	7.3	11.7	10.4	3.1
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Public	51,418	49.9	13.1	25.8	36.6	9.8	9.4	0.5
Private	18,095	59.5	31.6	25.7	29.5	9.6	6.4	3.1
Total first-professional	19,261	49.5	18.8	10.9	7.7	31.9	25.8	15.6
Public	7,625	43.4	19.9	16.7	11.0	24.1	17.4	19.2
Private	11,636	53.5	18.0	7.0	5.5	37.1	31.4	13.2

1/ Includes only students whose attendance status was known.

2/ Percents added across the various types of aid total more than 100 because some students receive multiple types and sources of aid.

3/ Includes students who reported they were awarded aid but were not specific about the type of aid.

4/ Includes students who received employer benefits.

5/ Includes students who received teaching or research assistantships and/or participated in work-study programs.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1987 National Postsecondary Student Aid Study.

Appendix B: Technical Notes

The 1987 National Postsecondary Student Aid Study (NPSAS) was conducted during the 1986-87 school year after an extensive national field test in 1985-86. The full-scale study involved 59,886 postsecondary students selected from 1,074 postsecondary institutions.

I. Sample Design

Students were selected for the 1987 NPSAS as the third stage in a three-stage sample design that involved clustering of units at two of the sampling stages, stratification of sampling units at each stage, and the assignment of differential selection probabilities for students at different levels.

The first stage of sampling consisted of selecting geographic areas based upon three-digit zip code areas. Prior to the selection of the clusters of three-digit zip code areas, a merged file of institutions whose accreditation was recognized by the U.S. Department of Education (HEGIS schools) and additional postsecondary institutions whose students were eligible for Pell grants were used to select institutions that were so large they would be in the sample with certainty. One hundred and sixty-two institutions were selected in this step.

A total of 361 clusters of three-digit zip code areas were formed next, constituting the primary sampling units (PSUs) of the study. The clusters were defined using the merged institutional file.

The first step of sampling PSUs was to select the largest PSUs with certainty. Each PSU was assigned a measure of size that depended upon the total number of students in the PSU and the number of students in four different types of institutions. A function of these numbers was used as the measure of size for each PSU to insure adequate representation of smaller, specialized institutions. Of the 361 PSUs in the universe, 50 were large enough to be included in the sample with certainty. The remaining PSUs were stratified on the basis of the State in which the PSU was located. In all, 35 strata were formed--each of roughly equal size. The PSUs were then assigned a probability of selection proportional to their measure of size. The PSUs in a stratum were sorted by State and within State by their measure of size. Two PSUs were sampled from each stratum. The final sample of PSUs consisted of the 50 PSUs selected with certainty and 70 PSUs selected with probability proportional to their measure of size.

Institution Sampling

Once the 120 PSUs were selected, a sampling frame consisting of all identified postsecondary institutions in the selected PSUs was constructed from nine different sources of postsecondary institutions. These lists were combined and duplicate listings were eliminated. A total of 7,814 schools was identified in the 120 sample PSUs.

Institutions in these 120 PSUs were then classified into 11 strata for sample selection. Ten strata were based upon the control of the institution (public; private, not-for-profit; and private, for-profit) and type (highest degree awarded, table B-1). The eleventh stratum was comprised of institutions whose students were ineligible for Pell grants, regardless of the type or control of the institution. Institutions were sampled with probability proportional to the total enrollment in the institution. If a total enrollment figure was not available, it was imputed based on the type and control of the institution for institutional sample selection.

A total of 346 institutions was selected with certainty at this stage. Some of these institutions were self-representing, since they were in PSUs in the sample with certainty at the first stage. Others were not self-representing, since they were from PSUs sampled at the first stage. The remaining 7,450 institutions were sorted by PSU and measure of size and then sampled with probability proportionate to size within a stratum. The initial sample of institutions consisted of 162 first-stage certainty institutions, 346 second-stage certainty institutions, 802 second-stage noncertainty institutions, and 32 branches of 2-year college systems, for a total of 1,342 sampled institutions and branch campuses.

A special supplemental sample was designed for New York State after the national sample of schools had already been selected that added an additional 11 campuses and increased the numbers of sample institutions to 1,353.

Ninety-two percent of the sampled institutions agreed to participate in the study. When participating institutions were weighted to reflect total enrollment muiltiplied by the probability of selection, the final weighted institutional response rate was 94.6 percent.

Student Sampling

The third stage of the sampling process was the selection of students within participating institutions. Institutions were asked for a list of all students enrolled on or about October 15, 1986. All students enrolled for courses for credit, in a degree or formal award program, or in a vocational or occupationally specific program, were eligible for selection, including part-time and full-time students and aided and nonaided students. If a student was also in a high school program, he/she was not eligible.

Students were stratified by level (undergraduate, graduate, and first-professional) and systematically sampled, using a random start and a prespecified sampling rate that varied by student level. Sampling rates for graduate and first-professional students were 3 to 7 times the rate for undergraduate students. When lists provided by institutions did not contain sufficient information to stratify students by level, all students were sampled at the undergraduate rate for that school. A sample of about 57,500 students was identified through the initial sampling process. Since graduate and first-professional students were sampled at the lower undergraduate rate in institutions that provided a list of students that did not designate students by level, this initial sample yielded a

lower-than-expected number of graduate and first-professional students.

Approximately 47,000 undergraduate, 6,500 graduate, and about 2,000 first-professional students were identified. For both undergraduate and graduate students, a sample of sufficient size for reliable estimates of major parameters was achieved. The number of first-professional students, however, was insufficient to provide reliable estimates by either enrollment or personal characteristics. Since it was necessary to increase the number of first-professional students in the NPSAS sample, additional first-professional students were sampled in March 1987. This was accomplished by sampling additional first-professional students in all public institutions that had initially provided enrollment lists of students by level, and obtaining new lists of first-professional students from participating private institutions that had first-professional programs, and sampling students from these newly obtained lists. This process identified 2,280 additional first-professional students, resulted in 4,280 first-professional students and a total student sample of 59,886. The number of students sampled by type and control of institution is presented in table B.1.

Table B.1--Number of students sampled, by institutional type and control

Institutional type	Control	Number of sampled students
Total		59,886
Doctoral	Public	13,231
Doctoral	Private, not-for-profit	13,383
4-year	Public	8,372
4-year	Private, not-for-profit	8,998
2-year	Public	6,505
2-year	Private, not-for-profit	2,083
2-year	Private, for-profit	2,081
Less than 2-year	Public	765
Less than 2-year	Private, not-for-profit	507
Less than 2-year	Private, for-profit	3,961

II. Data Sources

The data in this report were obtained from multiple sources. Once a student sample was identified at an institution, fall 1986 enrollment data on each sampled member were obtained from administrative records. These data were collected by trained NPSAS data collectors who visited each participating institution or campus from December 1986 through March 1987. A format for collecting consistent information on each student from each institution was developed, although not all institutions maintained the same level of information for their students, and, even within a given institution, administrative or registration records did not always contain the same information for each student. The proportion of missing data on registration record items ranged from a low of 1.2 percent for credit- or contact-hour enrollment to a high of 46 percent for high school completion information. However, some registration data were obtained for each of the 59,886 sampled students.

After the registration information had been collected, the NPSAS data collectors visited offices in which financial aid records were kept. For each student in the sample, a determination was made of whether that student had a financial aid record.

For each sample member with a financial aid record, the aid record was obtained by the NPSAS data collector. For those students with no financial aid record, this phase of data collection was complete. For students with an aid record, the student's aid status, type, source and amount of aid awarded as of the fall 1986, length of award (number of months each aid award covered), and if applicable and available, the student's family's financial status were recorded by the data collector either independently or in cooperation with the institutional financial aid coordinator in a consistent format designated as the Financial Aid Record Form. Of the 59,886 students sampled for the 1987 NPSAS, 33,000 or 55 percent, had a financial aid record in the fall of 1986.

Fall institutional record data were edited to assure logical consistency and to determine the reasonableness of recorded aid award amounts and cost information. Aid award amounts outside a predefined range were identified and flagged.

Record Update Task

The initial financial aid award data did not reflect awards made after the fall of 1986 and were not necessarily an accurate record of awards made for the fall, because of lapses in time between designation of eligibility for an award and specification of an award amount. Therefore, the fall financial aid award data were updated in the summer of 1987 at the end of the 1986-87 Federal financial aid program fiscal year.

Of the 1,074 institutions participating in the fall 1986 record collection, two refused to participate in the updating task and 10 did not participate because the school had closed. Thus, only the 175 students in these 12 schools did not have their financial aid information updated. A complete discription of this updating task is available in NCES' report, Undergraduate Financing of Postsecondary Education.

Student Survey

Each of the 59,886 students sampled for the NPSAS was mailed a questionnaire. The questionnaire was initially mailed in March 1987 to the student's school or local address as identified in the institution's registration records.

Nonrespondents to the initial mailing were sent two mailgram reminders and eventually a second questionnaire. Since the second mailing occurred at the end of the 1986-87 academic year (in May 1987), it was felt that additional mailings to the student's school address would not be productive, and all individuals who had not responded to the mail questionnaire (first or second mailings) were targeted for telephone interviews. The telephone interview encompassed all but five items in the mail questionnaire to preclude planned, unacceptably high, item nonresponse rates, although the order of items was changed to facilitate telephone interviewing. The overall response rate across all levels of students and types and controls of institutions in the sample was 72 percent. Among the 10,800 postbaccalaureate students in the sample, the response rates were 74 percent for graduate (master's and doctoral) students and 73 percent for first-professional students.

Items on the student questionnaire were edited to assure internal consistency of the data and to determine the reasonableness of reported amounts (financial aid, other sources of support, expenses). Reported expenses outside a predefined range were forced into the distribution at the minimum and maximum levels of the range. Students who reported aid awards lower or higher than the minimum or maximum level possible for that source and type of aid, were assigned values at minimum and maximum levels.

In addition to editing the student questionnaire data, a significant amount of telephone followup to retrieve missing or out-of-range responses on 21 key items was carried out. These key items included sources of financial support, education expense items, items to define dependency status, and the financial condition variables for students identified as independent. Over 14,000 students were contacted for data retrieval.

III. Estimation Weights

The production of student-level estimates was accomplished in steps. First, student-level estimates were obtained by using weights that reflected the probability of a student's being selected for the NPSAS sample. In addition to the probability of selection, a ratio adjustment was made based upon information from the 1986-87 Integrated Postsecondary Education Data System (IPEDS) and the 1985-86 Higher Education General Information Survey (HEGIS).

Since the student was selected in a multistage manner, the student weight was the product of the reciprocals of the probabilities of selection at each stage. The first nonresponse adjustment was related to the institution-level nonresponse (that is, refusal to participate in NPSAS).

A ratio adjustment technique was used to adjust for institution-level nonresponse and to reduce the variance of the estimates. The IPEDS/HEGIS file was the source used for the ratio adjustment. For institutions that could not be matched to the IPEDS/HEGIS file, a simple, nonresponse adjustment factor (the inverse of the weighted-response rate) was used.

The final weight for a student for the records data is the product of the adjusted institution weight and the within-institution student weight. The within-institution student weight is the inverse of the probability of selection of the student within the institution.

For the student questionnaire, an additional nonresponse adjustment was needed to reflect the fact that only about 72 percent (43,241) of the students completed the form. The student questionnaire weight is the product of the record data weight and a student-level nonresponse adjustment. The student questionnaire nonresponse adjustment is the inverse of the weighted response rate. The student questionnaire weights were used to produce the national estimates of the number of students by their characteristics presented in this report.

Reliability of the Estimates

The estimates in this report are subject to both sampling and nonsampling error. Sampling error arises because a sample of individuals was selected from a population and used to make inferences about the population. Estimates derived from one sample differ from estimates derived from another sample drawn from the same population in the same way. These differences result from sampling variability. There are a number of methods for computing estimates of the sampling variability of the statistics produced from complex sample designs (that is, multistage, stratified, cluster samples with varying probabilities of selection) such as that used for NPSAS. A stratified, jackknife replicate approach was chosen for NPSAS.

Jackknife variance estimation involves forming subsamples from the full sample for estimating sampling variances. This method can be used in sample designs in which the population is first stratified and then a sample of PSUs (primary sampling units) is selected. The basic design assumed by the jackknife method is one in which the population of PSUs is grouped into H strata (h = 1,2,...,H), and two PSUs are selected from each stratum. A replicate is formed by randomly deleting one PSU from a single stratum, doubling the weight of the remaining unit in the stratum, and using all units from other strata. This process of forming a replicate is repeated in turn for each stratum. Thus, if there are H strata, H replicates will be created. Estimates of the statistics of interest are obtained from each of these replicates. The variation of the replicate estimates around their corresponding full sample estimate is used to estimate the sampling variance of the statistic of interest. Using the jackknife replication method, the sampling variablility associated with several statistics of interest used in this report were estimated.

One measure of sampling variability is the coefficient of variation (CV), which is the standard error of an estimate, divided by the estimate. The CV represents the variability of an estimate expressed as a

percent of the estimate. This has the effect of standardizing the variation in terms of units and orders of magnitude. Estimated CVs can be used to determine the standard error of an estimate. For example, 47.4 percent of master's degrees students enrolled in the fall of 1986 received some financial aid. The estimated CV of this estimate is .022. This means that about 2.2 percent of the estimate is due to the variation of this estimate among samples. To calculate the standard error of the estimated proportion of aided master's students, the CV is multiplied by the estimate: .022(.474)=.0104. This standard error may then be used to establish a confidence interval around the estimate. To establish the 95 percent confidence interval around the proportion of aided undergraduates, the standard error is multiplied by 1.96: .0104(1.96)=.0204. The resulting value is then added to the estimate (.474+.0204) and subtracted from the estimate (.474-.0204). This procedure yields a confidence interval (.4536 to .4944) which would contain the "true" proportion of aided master's degree students in 95 percent of the samples that might have been drawn from the population of master's degree students enrolled in the fall of 1986. Coefficients of variation for selected characteristics are presented in tables B.2 and B.3. CVs for all other estimates presented in the report are available on request.

Analytic Methodology

All comparisons cited in the text of this report were significant at or beyond the .05 level as determined by pairwise t-tests for independent samples. The level of significance used in making comparisons was adjusted for the number of comparisons made within a "family" of comparisons defined as either the row or column variable. Adjustments were made using a Bonferroni adjustment to preclude the possibility of some comparisons being significant by chance alone.

All entries in the tables were based on at least 30 unweighted cases. Tables B.4 and B.5 show unweighted numbers of individuals in the NPSAS by selected characteristics. Percentage distributions developed for this report and total numbers of students by individual characteristics were based on the number of cases for whom data were available for the variable(s) of interest.

IV. Comparisons of NPSAS Estimates with Estimates from Other Primary Data Sources

Since the NPSAS collected data for the first time in 1986-87, it is important to compare estimates from the NPSAS with other postsecondary education data sources. These comparisons will permit readers to 1) examine differences in results between NPSAS and other published data, 2) consider the reasonableness of these differences, and 3) put the NPSAS data into a more familiar context.

A. NPSAS vs. IPEDS/HEGIS Fall Enrollment Report For 1986-87

The Integrated Postsecondary Education Data System (IPEDS)/Higher Education General Information Survey (HEGIS) annually collects data on the number of students enrolled in the fall of the school year. HEGIS has

Table B.2--Coefficients of variation for the number of postbaccalaureate students and the percent awarded aid, by aid status, source of aid, level of study, and control and level of institution

Control and level of institution	Coefficent of variation (in percent)						
	Number of students	Percent with any aid*	Percent with Federal aid	Percent with State aid	Percent with Institutional aid	Percent with Employer aid	Percent with Other aid
				Master's			
Total	3.3	2.2	4.4	10.2	3.4	8.1	10.1
Public	4.1	2.6	6.5	13.7	3.9	8.4	20.6
4-year doctoral	3.9	3.0	6.5	19.0	4.6	9.7	22.7
Other 4-year	8.0	6.9	13.6	17.4	10.4	16.0	40.1
Private, not-for-profit	5.8	3.4	5.5	11.4	4.8	9.6	10.8
4-year doctoral	4.0	2.5	6.2	12.0	4.2	5.9	12.6
Other 4-year	16.2	9.2	11.9	29.1	10.3	24.8	26.4
				Doctoral			
Total	3.3	2.4	8.4	20.7	2.9	8.6	35.3
Public	4.9	3.3	11.7	26.7	4.3	15.6	51.4
Private	6.6	2.5	13.0	25.5	4.0	12.5	29.8
				First-professional			
Total	21.6	2.5	5.9	20.6	10.5	33.4	9.3
Public	8.1	4.2	5.4	18.7	7.4	41.4	15.8
Private	31.7	2.5	7.6	29.3	13.7	50.9	11.7

* Includes students who said they were awarded aid but were not specific about the source of aid.

Table B.3--Coefficients of variation for the number of postbaccalaureate students and the percent awarded aid, by aid status, source of aid, level of study, and selected student characteristic

Selected student characteristic	Coefficent of variation (in percent)						
	Number of students	Percent with any aid 1/	Percent with Federal aid	Percent with State aid	Percent with Institutional aid	Percent with Employer aid	Percent with Other aid
				Master's			
Gender							
Male	4.2	2.7	6.7	16.6	4.0	9.8	14.7
Female	3.6	2.7	4.1	11.8	4.1	9.9	16.0
Race/ethnicity							
American Indian	19.5	31.7	68.0	102.8	39.3	102.8	--
Asian American	7.2	7.2	22.1	36.0	8.4	28.7	32.2
Black, non-Hispanic	9.7	7.2	13.7	26.3	9.8	28.4	34.6
Hispanic	9.6	9.1	18.5	35.9	17.4	32.1	45.0
White, non-Hispanic	3.4	2.7	4.8	10.9	4.1	8.2	10.2
Age							
23 or younger	5.8	3.4	9.5	26.8	6.1	15.5	22.5
24-26	4.3	3.3	8.1	20.0	5.2	13.1	18.8
27-29	5.2	4.7	8.6	17.4	7.0	12.7	28.3
30-39	5.4	4.6	8.5	25.2	8.9	13.7	20.8
35-39	6.4	6.9	11.2	34.4	8.5	14.8	27.2
40 or older	7.3	5.2	12.0	36.2	10.3	15.4	23.9
Marital status							
Married	4.0	3.2	7.4	21.4	3.9	8.9	17.8
Not married 2/	3.3	2.5	5.2	9.3	4.2	9.8	14.4
Attendance status							
Full-time	4.9	2.3	4.3	10.9	4.1	12.6	15.5
Part-time	4.6	3.9	9.4	16.2	5.3	9.1	19.9
Dependency status							
Dependent	3.7	3.6	8.7	20.2	4.8	13.2	17.6
Independent	3.7	2.3	5.4	12.9	3.7	9.2	12.0
Housing status							
School-owned	6.5	5.2	9.5	36.6	7.2	31.9	22.9
Off-campus, not with parents	3.5	2.3	5.0	11.7	3.3	8.3	12.4
With parents	6.7	7.2	10.8	36.7	9.1	20.5	80.3
Citizenship							
U.S. citizen	5.1	3.1	5.1	12.1	3.8	7.7	12.2
Resident alien	10.0	12.6	22.5	57.0	16.8	52.1	44.5
Nonresident alien	8.9	5.9	29.2	43.3	8.6	34.2	26.9
Field of study							
Arts and humanities	10.7	5.5	16.1	31.2	7.8	22.9	22.0
Business	5.9	5.7	8.0	29.5	9.7	9.8	24.2
Education	8.6	5.2	8.4	22.2	8.2	18.3	32.7
Engineering	9.3	6.2	20.8	34.9	8.4	20.2	46.7
Natural sciences 3/	10.0	3.6	10.0	21.7	6.7	18.3	24.5
Social sciences	7.1	4.8	9.8	23.5	6.8	22.1	28.6
Other	5.8	6.7	13.4	48.8	10.1	13.7	48.9

Table B.3--Coefficients of variation for the number of postbaccalaureate students and the percent awarded aid, by aid status, source of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Coefficent of variation (in percent)						
	Number of students	Percent with any aid 1/	Percent with Federal aid	Percent with State aid	Percent with Institutional aid	Percent with Employer aid	Percent with Other aid
				Doctoral			
Gender							
Male	4.6	2.8	9.7	37.8	4.0	13.2	35.9
Female	6.2	5.0	13.2	32.9	6.1	25.0	44.4
Race/ethnicity							
American Indian	62.2	80.2	80.2	82.1	82.1	--	111.5
Asian American	8.7	5.0	39.1	57.2	5.0	51.3	71.4
Black, non-Hispanic	19.4	14.7	27.1	56.7	18.7	58.9	61.2
Hispanic	20.5	12.5	41.9	72.0	17.4	71.7	60.8
White, non-Hispanic	4.1	2.7	8.7	15.3	3.5	12.5	48.7
Age							
23 or younger	12.5	1.2	32.3	67.0	3.6	72.8	101.4
24-26	8.6	3.6	12.6	76.8	4.6	42.1	47.5
27-29	8.6	4.1	16.8	43.6	4.1	32.2	50.1
30-39	6.7	4.9	14.0	43.5	5.8	26.1	59.6
35-39	7.1	10.2	27.6	29.1	13.1	19.1	65.3
40 or older	9.7	10.5	18.9	32.7	19.2	35.4	65.1
Marital status							
Married	4.9	3.8	10.7	26.2	4.7	12.7	39.1
Not married 2/	5.6	3.2	10.3	23.6	3.6	18.0	39.4
Attendance status							
Full-time	4.7	1.9	10.1	26.4	3.0	18.3	34.9
Part-time	5.2	6.2	17.1	27.8	7.0	22.9	58.0
Dependency status							
Dependent	7.7	4.8	15.4	55.2	4.5	28.9	64.1
Independent	3.8	3.5	9.2	17.7	4.3	10.9	32.4
Housing status							
School-owned	9.0	4.1	28.1	45.7	4.1	41.7	54.8
Off-campus, not with parents	3.7	3.0	8.8	25.8	3.6	10.5	37.2
With parents	15.7	18.1	44.6	101.5	21.1	--	101.0
Citizenship							
U.S. citizen	4.5	3.2	8.2	17.3	4.1	12.4	49.7
Resident alien	22.1	7.1	55.1	103.4	9.4	62.9	102.7
Nonresident alien	9.6	5.5	57.7	51.5	5.5	41.7	43.8
Field of study							
Arts and humanities	12.1	4.5	23.4	58.8	6.4	27.8	42.4
Business	21.6	9.1	58.7	66.3	16.9	41.9	--
Education	14.4	9.2	25.9	52.3	15.4	26.3	95.3
Engineering	17.9	3.7	56.4	79.2	5.7	39.2	96.4
Natural sciences 3/	10.0	4.2	10.3	49.7	4.7	35.8	41.3
Social sciences	9.0	7.9	15.8	38.1	8.7	61.7	69.6
Other	15.1	12.0	36.6	53.8	15.5	69.6	90.9

Table B.3--Coefficients of variation for the number of postbaccalaureate students and the percent awarded aid, by aid status, source of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Coefficent of variation (in percent)						
	Number of students	Percent with any aid 1/	Percent with Federal aid	Percent with State aid	Percent with Institutional aid	Percent with Employer aid	Percent with Other aid
	First-professional						
Gender							
Male	22.3	2.2	4.3	13.8	9.4	34.6	13.6
Female	20.9	5.8	9.7	33.0	12.8	45.7	16.4
Race/ethnicity							
American Indian	46.1	26.9	30.6	99.1	103.3	--	95.8
Asian American	24.9	14.0	20.6	25.6	22.6	76.3	50.9
Black, non-Hispanic	16.8	4.3	6.9	39.5	10.1	101.8	34.8
Hispanic	34.9	13.5	21.5	69.2	35.9	113.2	20.0
White, non-Hispanic	21.5	2.2	5.1	16.3	8.6	34.1	11.3
Age							
23 or younger	26.3	2.9	6.9	24.7	13.4	51.5	20.5
24-26	22.1	2.3	3.7	17.3	7.2	38.0	11.0
27-29	18.8	6.2	9.2	24.7	14.3	49.0	15.6
30-39	23.1	6.4	11.8	24.7	17.4	53.0	33.5
35-39	19.0	6.9	12.6	38.0	15.2	58.7	34.5
40 or older	18.4	11.5	15.9	71.9	19.8	74.7	36.3
Marital status							
Married	18.8	4.2	9.4	25.7	10.6	35.9	17.5
Not married 2/	22.9	2.1	4.8	19.1	11.0	38.3	8.1
Attendance status							
Full-time	24.4	1.9	5.1	21.1	10.7	37.0	9.5
Part-time	13.8	12.2	16.0	42.4	22.7	37.3	39.2
Dependency status							
Dependent	26.2	2.7	8.1	22.4	11.5	47.9	8.8
Independent	16.9	3.8	6.5	21.7	10.3	29.7	13.3
Housing status							
School-owned	60.8	5.1	13.6	33.5	4.3	160.1	40.8
Off-campus, not with parents	11.2	3.0	5.0	17.6	8.0	27.1	10.6
With parents	11.0	7.3	9.6	20.7	10.8	66.4	28.9
Citizenship							
U.S. citizen	23.2	1.8	5.0	21.9	9.6	36.9	10.5
Resident alien	52.1	17.5	27.9	27.3	34.5	--	100.6
Nonresident alien	34.4	25.7	81.4	--	29.8	105.7	46.4

Table B.3--Coefficients of variation for the number of postbaccalaureate students and the percent awarded aid, by aid status, source of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Coefficent of variation (in percent)						
	Number of students	Percent with any aid 1/	Percent with Federal aid	Percent with State aid	Percent with Institutional aid	Percent with Employer aid	Percent with Other aid
Field of study							
Law	10.9	3.2	4.0	10.0	5.8	29.8	22.6
Medicine	52.8	4.0	8.5	29.5	20.1	116.1	8.4
Other medical 4/	24.7	2.9	4.5	22.8	20.4	49.8	25.7
Theology	42.2	10.3	23.2	46.3	12.1	37.3	17.9

--Too few cases for a reliable estimate

1/ Includes students who said they were awarded aid but were not specific about the source of aid.

2/ Includes students who were single, separated, divorced, or widowed.

3/ Includes students who majored in life and physical sciences or mathematics.

4/ "Other medical" includes: chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

Table B.4--Unweighted number of postbaccalaureate students responding to the NPSAS student questionnaire, by aid status, source of aid, level of study, and control and level of institution

Control and level of institution	Number of students	Source of aid 1/					
		Any aid 2/	Federal	State	Institutional	Employer	Other
Total postbaccalaureate students	8,188	5,028	2,931	564	2,791	558	385
				Master's			
Total	4,119	1,978	721	126	1,135	453	113
Public	1,803	804	264	61	527	132	28
4-year doctoral	1,092	563	184	39	382	81	22
Other 4-year	711	241	80	22	145	51	6
Private, not-for-profit	2,316	1,174	457	65	608	321	85
4-year doctoral	1,465	829	332	49	470	208	65
Other 4-year	851	345	125	16	138	113	20
				Doctoral			
Total	857	642	171	29	533	56	23
Public	404	295	85	18	248	23	9
Private	453	347	86	11	285	33	14
				First-professional			
Total	3,212	2,408	2,039	409	1,123	49	249
Public	1,216	888	754	152	392	17	92
Private	1,996	1,520	1,285	257	731	32	157

1/ Numbers added across the various sources may total more than the number of students receiving any aid because some students receive aid from multiple sources.

2/ Includes students who said they were awarded aid but were not specific about the source of aid.

Table B.5--Unweighted number of postbaccalaureate students responding to the NPSAS student questionnaire, by aid staus, source of aid, level of study, and selected student characteristic

Selected student characteristic	Number of students	Source of aid 1/					
		Any aid 2/	Federal	State	Institutional	Employer	Other
Total postbaccalaureate students	8,188	5,028	2,931	564	2,791	558	385
				Master's			
Gender	4,119	1,978	721	126	1,135	453	113
Male	1,877	964	339	50	533	234	59
Female	2,242	1,014	382	76	602	219	54
Race/ethnicity	4,086	1,963	715	124	1,127	450	113
American Indian	23	10	4	1	5	1	0
Asian American	299	150	23	8	117	16	15
Black, non-Hispanic	211	120	59	10	71	15	8
Hispanic	148	67	30	3	39	12	5
White, non-Hispanic	3,405	1,616	599	102	895	406	85
Age	4,118	1,977	721	126	1,134	453	113
23 or younger	423	285	105	18	214	30	19
24-26	914	496	182	40	320	89	27
27-29	671	346	137	26	177	98	17
30-39	784	369	144	20	189	103	19
35-39	595	234	73	13	118	61	11
40 or older	731	247	80	9	116	72	20
Marital status	4,105	1,973	719	126	1,132	452	113
Married	2,091	851	243	40	416	258	48
Not married 3/	2,014	1,122	476	86	716	194	65
Attendance status	3,839	1,842	680	119	1,050	426	99
Full-time	1,311	927	443	84	646	83	68
Part-time	2,528	915	237	35	404	343	31
Dependency status	4,069	1,957	718	126	1,122	449	111
Dependent	1,157	600	159	30	450	90	32
Independent	2,912	1,357	559	96	672	359	79
Housing status	4,118	1,978	721	126	1,135	453	113
School-owned	257	193	73	14	163	14	22
Off-campus, not with parents	3,461	1,627	605	103	881	398	88
With parents	400	158	43	9	91	41	3
Citizenship	3,256	1,633	654	111	961	331	95
U.S. citizen	2,998	1,475	622	100	839	319	75
Resident alien	108	59	23	5	39	4	7
Nonresident alien	150	99	9	6	83	8	13
Field of study	4,119	1,978	721	126	1,135	453	113
Arts and humanities	359	228	89	15	169	26	28
Business	982	431	146	22	158	193	16
Education	838	301	118	19	173	46	12
Engineering	187	117	30	7	78	23	5
Natural sciences 4/	415	265	97	26	187	40	14
Social sciences	375	209	100	15	118	24	15
Other	298	157	47	5	94	41	6

Table B.5--Unweighted number of postbaccalaureate students responding to the NPSAS student questionnaire, by aid staus, source of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students	Source of aid 1/					
		Any aid 2/	Federal	State	Institutional	Employer	Other
				Doctoral			
Gender	857	642	171	29	533	56	23
Male	525	406	98	19	334	40	16
Female	332	236	73	10	199	16	7
Race/ethnicity	849	636	171	29	528	56	22
American Indian	4	3	3	2	2	0	1
Asian American	118	97	9	4	95	4	2
Black, non-Hispanic	42	25	9	4	16	3	3
Hispanic	33	23	6	2	14	2	3
White, non-Hispanic	652	488	144	17	401	47	13
Age	857	642	171	29	533	56	23
23 or younger	78	75	18	3	66	2	1
24-26	156	137	47	2	115	7	5
27-29	164	140	32	6	129	10	5
30-39	209	158	38	6	136	15	5
35-39	118	72	17	6	49	13	4
40 or older	132	60	19	6	38	9	3
Marital status	856	641	171	29	533	55	23
Married	426	286	67	14	229	33	9
Not married 3/	430	355	104	15	304	22	14
Attendance status	757	570	155	29	475	50	18
Full-time	479	419	126	22	356	28	14
Part-time	278	151	29	7	119	22	4
Dependency status	840	626	171	28	518	55	22
Dependent	230	182	33	4	162	9	6
Independent	610	444	138	24	356	46	16
Housing status	853	638	170	29	529	56	23
School-owned	125	112	20	5	108	7	4
Off-campus, not with parents	698	508	145	23	408	49	18
With parents	30	18	5	1	13	0	1
Citizenship	712	539	155	27	445	47	15
U.S. citizen	586	431	146	21	344	38	7
Resident alien	34	28	5	1	25	3	1
Nonresident alien	92	80	4	5	76	6	7
Field of study	857	642	171	29	533	56	23
Arts and humanities	167	123	41	4	96	11	6
Business	35	23	4	2	16	5	0
Education	112	53	15	4	33	11	1
Engineering	54	50	4	5	45	7	1
Natural sciences 4/	201	185	52	5	164	7	7
Social sciences	152	102	33	6	92	5	3
Other	41	31	6	3	26	2	1

Table B.5--Unweighted number of postbaccalaureate students responding to the NPSAS student questionnaire, by aid staus, source of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students	Source of aid 1/					
		Any aid 2/	Federal	State	Institutional	Employer	Other
		First-professional					
Gender	3,212	2,408	2,039	409	1,123	49	249
Male	2,022	1,497	1,275	255	668	33	154
Female	1,190	911	764	154	455	16	95
Race/ethnicity	3,198	2,400	2,033	408	1,118	49	248
American Indian	15	11	10	2	2	0	2
Asian American	127	88	73	17	59	2	7
Black, non-Hispanic	129	114	95	22	67	1	13
Hispanic	134	114	97	27	54	1	18
White, non-Hispanic	2,793	2,073	1,758	340	936	45	208
Age	3,212	2,408	2,039	409	1,123	49	249
23 or younger	879	644	547	120	312	6	60
24-26	1,181	895	786	157	431	19	91
27-29	448	354	292	60	164	8	41
30-39	388	310	255	50	136	10	33
35-39	189	137	108	18	57	2	14
40 or older	127	68	51	4	23	4	10
Marital status	3,210	2,408	2,039	409	1,123	49	249
Married	984	728	591	102	326	20	81
Not married 3/	2,226	1,680	1,448	307	797	29	168
Attendance status	3,067	2,300	1,951	391	1,067	48	239
Full-time	2,877	2,197	1,879	382	1,031	36	230
Part-time	190	103	72	9	36	12	9
Dependency status	3,198	2,403	2,036	408	1,118	49	249
Dependent	1,613	1,078	868	192	531	15	103
Independent	1,585	1,325	1,148	216	587	34	146
Housing status	3,212	2,408	2,039	409	1,123	49	249
School-owned	451	368	296	73	228	10	68
Off-campus, not with parents	2,463	1,835	1,572	297	801	36	165
With parents	298	205	171	39	94	3	16
Citizenship	2,933	2,231	1,902	385	1,037	39	227
U.S. citizen	2,860	2,174	1,863	373	999	38	221
Resident alien	49	43	35	12	28	0	3
Nonresident alien	24	14	4	0	10	1	3

Table B.5--Unweighted number of postbaccalaureate students responding to the NPSAS student questionnaire, by aid staus, source of aid, level of study, and selected student characteristic--continued

Selected student characteristic	Number of students	Source of aid 1/					
		Any aid 2/	Federal	State	Institutional	Employer	Other
Field of study	3,212	2,408	2,039	409	1,123	49	249
Law	1,520	1,051	877	141	454	22	63
Medicine	786	623	559	149	343	9	85
Other medical 5/	621	518	471	100	181	9	43
Theology	147	106	48	6	88	5	48

1/ Numbers added across the various sources may total more than the number of students receiving any aid because some students received aid from multiple sources.

2/ Includes students who said they were awarded aid but were not specific about the source of aid.

3/ Includes students who were single, separated, divorced, or widowed.

4/ Includes students who majored in life sciences, physical sciences, or mathematics.

5/ "Other medical" includes: chiropractic medicine, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine.

collected data from higher education institutions whose accreditation was recognized by the U.S. Department of Education since 1965. IPEDS expands the universe of data collection to all schools in the United States whose primary mission is to provide postsecondary education. The first data on this expanded universe was collected in the 1986-87 school year. Thus, for the non-HEGIS institutions and institutional sectors, the IPEDS/HEGIS fall 1986 enrollment counts are currently undergoing evaluation.

Table B-6 presents a comparison of the NPSAS estimates of total enrollment for graduate and first-professional students by the IPEDS/HEGIS estimates for fall 1986. For fall enrollment data from institutions that award at least a 4-year degree, IPEDS/HEGIS collects information from all such institutions. Table B-6 indicates the estimated sampling error for NPSAS estimates, as well as the estimated enrollments from these two sources of data.

As table B-6 indicates, NPSAS estimates of the number of enrolled graduate students differ somewhat from those of IPEDS/HEGIS, with NPSAS enrollments lower than those of IPEDS/HEGIS. This difference represents about 11 percent of the total graduate student enrollment.

Table B.6--Comparisons of NPSAS estimates of enrollment and IPEDS/HEGIS estimates for fall 1986, by level of student

	NPSAS	IPEDS/HEGIS
	Graduates	
4-year institutions	1,063,146 (± 5,004)	1,187,958
	First-Professional	
4-year institutions	300,907 (± 11,214)	283,775

Differences between NPSAS graduate enrollment estimates and IPEDS/HEGIS graduate counts for the 4-year institutions can be explained somewhat in terms of individual student eligibility for the NPSAS vis a vis IPEDS/HEGIS and in terms of enrollment lists that were provided to the NPSAS by institutions.

Differences counts between postbaccalaureate students eligible for inclusion in IPEDS/HEGIS enrollment and students eligible for inclusion in the NPSAS sample are subtle. Both include all postbaccalaureate students enrolled in a course for credit toward a degree or other formal award. Both explicitly exclude students who are exclusively auditing courses. On the other hand, some not insignificant portion of students included in institutional enrollment reports may have registered for the fall but were not in attendance at the institution in October, when the NPSAS sample was identified.

This type of student comprises about 1 percent of the total IPEDS/HEGIS graduate enrollment or about 12,000 students.

With respect to enrollment lists, it must be noted that lists of enrolled students were requested at specific campus locations visited by NPSAS interviewers. For this reason, it is possible that students enrolled exclusively at off-campus or extension centers may not have been included in the enrollment lists provided to the NPSAS and could result in a NPSAS underestimate of the number of students enrolled. Fortunately, the IPEDS enrollment report asks institutions to report the number of students enrolled exclusively in off-campus centers, by level, so it is possible to get an excellent idea of the number of such graduate students that might have been excluded from the NPSAS sample. The number of these graduate students reported to IPEDS for the 1986-87 fall term was about 39,000--or about 3 percent of the total IPEDS graduate enrollment.

The differences detailed above account for about 4 percent of the difference between the IPEDS/HEGIS and NPSAS enrollment counts. Sampling variability in the NPSAS estimates of the number of graduates accounts for an additional 1 percent of enrollment, so, observed differences in enrollment counts are reduced substantially when the procedures of the two studies are examined.

V. The Use of Student-Reported Financial Aid Data

Except for tuition and fee expenses, all of the cost estimates and most of the estimates of type, source, and amount of financial aid presented in this report were developed from student-reported data. This strategy is vastly different from that used in reporting undergraduate expenses and financial aid, which relied almost entirely on institutional records for financial aid data.

Using student-reported data as the primary source for the estimates was essential to avoid severe underreporting of financial aid to postbaccalaureate students. As the data in this report indicate, financial aid programs for postbaccalaureate students are quite different from those for undergraduates. With respect to Federal aid programs, for example, the only overarching Federal aid programs for postbaccalaureate students are

campus-based programs--college work-study; Perkins loans--and the Federal loan programs--Stafford loans (GSL's) and Supplementary Loans to Students (SLS). Other Federal aid programs for postbaccalaureate students are directed at students in particular fields of study. Institutional aid (e.g., teaching and research assistantships, fellowships, tuition waivers) is also usually offered through specific academic departments, and records of this aid are not usually maintained in a central financial aid office. As a result, in the 1987 NPSAS, there was no single office at all sampled institutions that could be consistently identified as maintaining complete financial aid records for all aided postbaccalaureate students.

This circumstance is illustrated quite well by the 1987 NPSAS data. One type of aid presented in this report was work study/assistantships. Work-study and assistantships were combined for reporting purposes, because postbaccalaureate students who receive work-study aid generally perceive this aid as an assistantship. In comparing the incidence of reporting of work-study/assistantships between the financial aid record and the student report, it was found that in only about 30 percent of the cases was this type of aid reported consistently by the institution and the student. For about 7 percent of the students, this type of aid was reported only by the institution and not by the student at all. However, for 63 percent of these students, the student reported receiving work-study aid and/or an assistantship, but there was no institutional record of any work-study/assistantship aid.

To preclude the possibility that postbaccalaureate students were overreporting aid, the consistency between institutional record data and student reports of Stafford loans (Guaranteed Student Loans) was examined under the premise that, since there is some need element in receipt of a Stafford loan, the financial aid office would be most likely to have a record of Stafford loans awarded to postbaccalaureate students. In fact, for over 79 percent of the students for whom a Stafford loan was reported, it was reported consistently by both students and institutional records. For only 7 percent of the cases did the institution report that the student received a Stafford loan, but the student did not report such a loan, and in 14 percent of the cases, the student reported having received a Stafford (GSL) loan, but the institution had no record of that loan.

VI. Variables Used in the Report

Since there may be as many as three data sources for a particular student in the NPSAS, the database is fairly complex. Using it to produce national estimates and comparative analytic results requires decisions not only on which variables to use and how each variable will be treated, but also on how these variables will be operationally defined and which source of data is the best for a given variable. The complexity of the database is compounded by the diversity inherent in postsecondary education, among institutions and among students who attend these institutions.

This section details how the variables presented in this report were operationally defined, the primary and secondary data sources used for a particular variable, imputation strategies that were followed, adjustments made to the data to provide comparable statistics across students with vastly different enrollment characteristics from institutions with

differing operating characteristics, and the treatment of each variable in computing percentages or mean values, as appropriate.
The treatment of each variable used in the report is presented in a consistent format. If the variable is categorical in nature, the assigned values (or categories) are listed, and categories are operationally defined. The operational definition generally reflects the way the data were collected, rather than the technical or standardized definition, although in some cases the operational and standardized definitions may be the same. For example, the attendance status of a student was determined by the designation of full- or part-time status extant in institutional registration records, rather than by calculating the number of credit hours the student was enrolled in and then applying a standard definition of full- and part-time status to the number of credit hours. The glossary provides the technical or standardized definition of variables used in the report.

Following the operational definition, the primary and secondary (if applicable) sources for the data are specified. The primary source is that source of data (Registration Record Form, Financial Aid Record Form, student questionnaire) used first to determine the student's status on a particular variable. If no information on the student's status was available from the primary source, then the secondary source was used to verify the primary source or was used to determine the student's status. For example, to determine the student's dependency status, the primary source was the Financial Aid Record Form. If the student did not have a Financial Aid Record, only then were relevant items from the student questionnaire used. If the student did have data from the primary source, then the secondary source was generally not used to add to data from the primary source.

Imputation strategies, data adjustments, and how each variable was treated are then delineated, if relevant. Imputations for missing data were generally not necessary, because of the multiple sources of data that were available for each student, and the large amount of data retrieval that was effected. However, for institutional and student-reported financial aid award amounts and student-reported expenses, if no dollar amounts were reported for a specific aid or expense subcategory, but amounts for other subcategories had been reported, then a zero was imputed for those subcategories with no amount entry.

Data adjustments were carried out only: 1) to establish comparable values for a variable across all students, irrespective of the type of postsecondary institution they attended or their enrollment characteristics; or 2) when the data were collected in such a way that some adjustment was necessary to get totals for an entire academic year. The treatment of the variable, in most cases, specifies how percentages or means were actually calculated for presentation in this report.

A. Institutional Level

Assigned values:
4-year doctoral
Other 4-year
2-year
Less than 2-year

Operational definition:

4-year doctoral	Institutions or subsidiary elements that provide postsecondary education and confer at least a doctoral or first-professional degree in one or more programs.
Other 4-year	Institutions or subsidiary elements that provide postsecondary education and confer at least a baccalaureate or master's degree in one or more programs. These institutions cannot award higher than a master's degree.
2-year	Institutions or subsidiary elements that provide postsecondary education and confer at least a 2-year formal award (certificate or associate degree) or have a 2-year program that is creditable toward a baccalaureate or higher degree in one or more programs. These institutions cannot award a baccalaureate degree.
Less than 2-year	Institutions or subsidiary elements that provide postsecondary education and all of whose programs are less than 2 years long. These institutions must offer, at a minimum, one program at least 3 months in duration that results in a terminal occupational award or is creditable toward a formal 2-year or higher award.

Primary source: Self-identification through telephone contact with sampled institutions.

Secondary source: IPEDS/HEGIS Institutional Characteristics Survey, 1986-87.

B. Institutional Control

Assigned values:
Public
Private, not-for-profit
Private, for-profit

Operational definition:

Public	An educational institution operated by publicly elected or appointed school officials and supported primarily by public funds. The institution's program(s) and activities are under

the control or these officials.

Private, not-for-profit — An educational institution that is controlled by an individual or agency other than a State, a subdivision of a State, or the Federal Government, that is usually supported primarily by other than public funds, and the operation of whose program rests with other than publicly elected or appointed officials.

Private, for-profit — An educational institution that is under private control and whose profits, derived from revenues, are subject to taxation.

Primary source: Self-identification through telephone contact with sampled institutions.

Secondary source: IPEDS/HEGIS Institutional Characteristics Survey, 1986-87.

C. Student Level

Assigned values:
Undergraduate
Graduate
First-Professional

Operational definition: Level of student in the fall of 1986.

Undergraduate — Student academic level designated by institution as undergraduate, first-year, first-time-enrolled at the school, or undergraduate other, or student enrolled on a clock- or contact-hour basis in a less-than-2-year, or 2-year institution.

Student identified self as freshman (first-year), sophomore (second-year), junior (third-year), senior (fourth-year), or fifth-year or more undergraduate.

Graduate — Student's academic level, as designated by the institution, was master's or doctoral.

Student identified self as graduate or professional student working toward master's or doctoral degree.

First-Professional — Student academic level as designated by the institution was first-professional.

Student identified self as graduate or professional student working toward a first-professional degree.

Primary source: Registration Record Form Items R19, R21.

Secondary source: Student Questionnaire Items SQ3, SQ4

Data adjustments: If student level was missing on the Registration Record Form and the Student Questionnaire, and the student was enrolled in an institution whose highest level of award was a 2-year degree, the student was classified as an undergraduate. Students who identified themselves as first-professional and were enrolled in an other 4-year institution were reclassified as graduate students.

Treatment: Approximately 9 cases that could not be classified by level were deleted from the report.

D. Graduate Degree Program

Assigned values: Master's
Doctoral

Operational definition:

Master's student — Student's degree program in the fall of 1986, as designated by the institution, was a master's program.

Student reported that fall courses were leading to a master's degree.

Doctoral student — Student's degree program in the fall of 1986, as designated by the institution, was a doctoral program.

Student reported that fall courses were leading to a doctoral degree.

Primary source: Registration Record Form R21.

Secondary source: Student Questionnaire SQ4.

Treatment: If a graduate student's degree program could not be identified from either the Registration Record Form or the Student Questionnaire, that student was not included in the tabulations in the report.

E. Gender

Assigned values: Male
Female

Primary source: Student Questionnaire Item SQ75.

Secondary source: Registration Record Form Item R12.

F. Race/Ethnicity

Assigned values: American Indian
Asian American
Black, non-Hispanic
Hispanic
White, non-Hispanic

Operational definition:

Self-identified race/ethnicity of student on student questionnaire.

Race/ethnicity as recorded in student's institutional records.

Primary source: Student Questionnaire Items SQ76 (race) and SQ77 (ethnicity).

Secondary source: Registration Record Form Item R14 (race/ethnicity).

Treatment: From the student questionnaire, students who reported that they were of Hispanic descent on the ethnicity question were moved from the category they reported on the race question and were assigned a value of Hispanic on the race/ethnicity variable to avoid double counting. All other students were assigned the same values (American Indian, Asian American, black, and white) on the race/ethnicity variable as they reported on the race item. If race was not reported or reported as "other" and students identified themselves as Asian or Pacific Islander on the ethnicity question, then the student's race/ethnicity was recorded as Asian American.

G. Age

Assigned values:
23 or under
24-26
27-29
30-34
35-39
40 or older

Operational definition: Age as of 12/31/86.

23 or under	Date of birth on or after January 1, 1963.
24-26	Date of birth between January 1, 1960, and December 31, 1962.
27-29	Date of birth between January 1, 1957, and December 31, 1959.
30-34	Date of birth between January 1, 1952, and December 31, 1956.
35-39	Date of birth between January 1, 1947, and December 31, 1951.
40 or older	Date of birth on or before December 31, 1946.

Primary source: Student Questionnaire Item SQ74.

Secondary source: Registration Record Form Item R13.

H. Marital Status

Assigned values:
Married
Not married

Operational definition:

Married	Anyone who was married (but not separated) at the time of data collection.
Not married	Anyone who was single, separated, divorced, or widowed at the time of data collection.

Primary source: Student Questionnaire Item SQ78.

Secondary source: Financial Aid Record Form Item R24.

I. Attendance Status — For Student Characteristics

Assigned values:
Full time
Part time

Operational definition: Institution-reported student attendance status (full time, part time) based on institution's definition of full time and part time. (See glossary for a standard definition.)

Full time — Assigned if the institution reported that the student attended full time in fall 1986.

Part time — Assigned if the institution reported that the student attended part time in fall 1986.

Primary source: Registration Record Form Item R22.

J. Attendance Status — For Calculating Average Amounts

Assigned values:
Full time, full year
Part time, full year

Operational definition: Institution-reported student attendance status (full time, part time) based on institution's definition of full time and part time (See glossary for a standard definition) and student-reported enrollment status for the spring, 1987.

Full time, full year — Assigned if the institution reported that the student attended full time in fall 1986 and the student reported being enrolled in the spring, 1987.

Part time, full year — Assigned if the institution reported that the student attended part time in fall 1986 and the student reported being enrolled in the spring, 1987.

Primary source: Registration Record Form Item R22.
Student Questionnaire Items SQ28 and SQ29.

K. Dependency Status

Assigned values:
Dependent
Independent

Operational definition: Institution's determination of dependency

status for financial aid purposes, or student's response to several items reflecting the standard financial aid definition of dependency status.

Dependent — Assigned using the Student Questionnaire if student responded "yes" to any of the following questions: Did you live with your parents/guardians for at least a total of 6 weeks in 1985 or 1986? Did your arents/guardians provide more than $750 toward your support in 1985 or 1986? Did your parents/guardians claim you as a tax exemption on their Federal income tax return in 1985 or 1986?

Independent — Assigned using the Student Questionnaire if student responded "no" to all the above questions or if the person's parents/guardians were no longer living.

Primary source: Financial Aid Record Form Item R25.

Secondary source: Student Questionnaire Items SQ88a, SQ88c and SQ88d (a and b).

L. Housing Status

Assigned values:
School-owned housing
Off-campus, not with parents
With parents

Operational definition: Student-reported living arrangements for the fall of 1986 while enrolled in school, or institution's designation of student's housing arrangement in the fall of 1986.

Primary source: Student Questionnaire Item SQ10.

Secondary source: Registration Record Form Item R17.

M. Citizenship Status

Assigned values:
U.S. Citizen
Resident alien
Nonresident alien

Operational definition: Institition-reported citizenship status.

Primary source: Registration Record Form Item R15.

N. Field of Study (Graduate Fields)

Assigned values:
Arts and humanities
Business
Education
Engineering
Natural sciences
Social sciences
Other

Operational definition: Student's field of study in the fall of 1987 as reported by the institution, or student's program, field of study, or contemplated major as reported by the student in the Spring of 1987.

Primary source: Registration Record Form Item R21F.

Secondary source: Student Questionnaire Item SQ37.

Data adjustments: Each reported literal major field of study was numerically coded into 88 programs using the Classification of Instructional Programs' (CIP) 2-digit, and in a few instances 4- and 6-digit, numeric program codes (see appendix D for a listing of these programs). For purposes of this report, these 88 programs were separated into graduate and first-professional fields; graduate fields were aggregated using the following scheme:

CIP code	Field of study
16,23,24,38,50	Arts and humanities
06-08	Business
13	Education
14 and 15	Engineering
17,18 (except 180401, 181001,1812,1814,1815 1824),26,27,40	Natural sciences
05,42,44,45	Social sciences
01-04,09-12, 19-22 (except 220101), 25,28,31,32,38,39 (except 3906),41,43, 46-49	Other

Field of Study (First-Professional fields)

Assigned values:
Law
Medicine
Other medical
Theology

Primary source: Registration Record Form Item R21F

Secondary source: Student Questionnaire Item SQ37

Data adjustments: See data adjustments for graduate fields of study. First-professional fields were aggregated using the following scheme:

CIP code	Field of study
220101	Law
181001	Medicine
1812,1813,1814, 1815,1824	Other medical
3906	Theology

O. Tuition and Fee Expenses

Operational definition: Total tuition and fees charged to the student prior to any discounts or allowances for the 1986-87 school year or charges for an entire program, if the institution charged on a total program basis.

Primary source: Registration Record Form Item R18.

Data adjustments: Item R18 requested tuition and fee charges for the fall term only if the institution charged by term. To determine the basis for reporting these charges (type of term or entire school year), the median reported charge, based on the registration records of all sampled, full-time, injurisdiction undergraduates at the institution, was calculated. This median value was compared to the tuition and fee charges for full-time, injurisdiction undergraduate students whom the institution had reported on the 1986-87 IPEDS/HEGIS Institutional Characteristics Survey. If the resulting ratio was equal to 1, then it was assumed that charges for all students at that institution had been reported for the entire school year. If the resulting ratio was equal to approximately 1/2 (median tuition and fees ratio to IPEDS tuition and fees), it indicated that the institution's school year was comprised of two terms and reported tuition and fee charges for each student (both undergraduate and postbaccalaureate if applicable) at that institution were multiplied by 2 to obtain a school-year value. If the ratio was equal to approximately 1/3, then reported tuition and fee charges were multiplied by 3.

If a part-time student reported being enrolled in the spring of 1987 as well as the fall of 1986, reported tuition and fee charges were multiplied by the ratios calculated to adjust tuition and fees for full-time students at the institution, under the assumption that enrollment status did not change from fall to spring. For postbaccalaureate students who changed schools during the school year, the tuition and fees reported in R18 and ajusted to a full academic year were divided in half. This was added to the tuition and fees reported by the student for the spring term in their new school (SQ38a).

Ranges on calculated academic-year tuition and fee charges were compared with tuition and fee charges reported by the institution on IPEDS separately for graduate and first-professional students in and out of jurisdiction. If calculated tuition and fee charges were larger than IPEDS reported tuition and fee charges, calculated values were replaced by the IPEDS-reported tuition and fee charges.

Treatment:

For full-time, full-year and part-time, full-year students, mean tuition and fee charges were calculated by totalling individual student values over all students who reported being enrolled in both the fall of 1986 and the spring of 1987 (Items SQ28 and SQ29) and dividing by the number of students that went into the sum. Students who were not enrolled in school after the fall enrollment period were excluded from calculations of mean tuition and fee charges.

Only students who had reported a positive, nonzero value in any one or more of the items, SQ9 (expenses for books and supplies), SQ11a (school-paid housing), SQ11b (school-paid board), SQ12Ba (average monthly rent expenditure) or SQ12B (average monthly food expenditure) or if the student reported any "other" expenses in SQ12C through SQ12F - part B, education-related expenses.

Average tuition and fee expenses included only students for whom attendance status (full- or part-time) was available.

P. Student-Reported Expenses

Assigned values:
Food and housing expenses
Books and supplies
All other expenses
Total expenses

Operational definition: Expenses related to attendance in a postsecondary institution as reported by the student on the Student Questionnaire.

Food and housing expenses

Operational definition:

Full expenses — Total of student's reported housing, board, rent, and food expenditures for the 1986-87 school year.

Expenses directly related to education — Total of student's reported housing, board, rent, and food expenditures that were directly related to the student's education for the 1986-87 school year.

Primary source: Student Questionnaire Items SQ11a, SQ11b, SQ12A or B (a and b), SQ41a, SQ41b, SQ42A or B (a and b).

Data adjustments: For postbaccalaureate students, reported room and board payments to the school for the fall and spring (SQ11a,SQ11b,SQ41a,SQ41b) were added. Average monthly expenditures for food and housing reported for fall 1986 and spring 1987 were each multiplied by 4.5 and added. The same adjustments were made to the data for students enrolled part time in the fall as were made for full-time students. If a student was enrolled in the spring 1987 in the same school as in the fall and no spring expenditure data were reported, then reported room and board payments to the school for the fall of 1986 were multiplied by 2 and average monthly expenses for the fall were multiplied by 9.

Treatment: Adjusted room and board payments to the school and average monthly expenses for rent and food were summed over all postbaccalaureate students who were enrolled in both the fall, 1986, and the Spring, 1987, and for whom tuition and fee expenditures (R18) had been reported and who had reported a positive, nonzero value in any one or more of the items, SQ9 (books and supplies), SQ11a (school-paid housing), SQ11b (school-paid

board), SQ12Ba (average monthly rent expenditure) or SQ12B (average monthly food expenditure) or if the student reported any "other" expenses in SQ12C through SQ12F - part B, education-related expenses. Separate averages were calculated for full-time, full-year and part-time, full-year postbaccalaureate students. Each sum was divided by the total number of students that went into the sum.

Average food and housing expenses included only students for whom attendance status (full- or part-time) was available.

Books and supplies

Operational definition: Total of student's reported expenditures on books and supplies.

Primary source: Student Questionnaire Items SQ9 and SQ39.

Data adjustments: For postbaccalaureate students, reported books and supplies expenditures for the fall and spring (SQ9 and SQ39) were added. The same adjustment was made to the data for students enrolled part-time in the fall as was made for full-time students. If a student was enrolled in the spring, 1987, in the same school as in the fall and no spring expenditure data were reported, then books and supplies expenses for the fall of 1986 were multiplied by 2.

Treatment: Adjusted expenditures for books and supplies were summed over all postbaccalaureate students who were enrolled in both the fall, 1986, and the spring, 1987, and for whom tuition and fee expenditures (R18) had been reported and who had reported a positive, nonzero value in any one or more of the items, SQ9 (books and supplies) SQ11a (school-paid housing), SQ11b (school-paid board), SQ12Ba (average monthly rent expenditure) or SQ12B (average monthly food expenditure) if the student reported any "other" expenses in SQ12C through SQ12F - part B, education related expenses. Separate averages were calculated for full-time, full-year and part-time, full-year postbaccalaureate students. Each sum was divided by the total number of students that went into the sum.

Average expenditures for books and supplies included only students for whom attendance status (full or part time) was available.

Other monthly expenses

Operational definition:

Full expenses	Student-reported total 1986-87 school year expenditures for commuting to school, other transportation costs, personal expenses, and child care expenses.
Expenses directly related to education	Student-reported total 1986-87 school-year expenditures for commuting to school, other transportation costs, personal expenses, and child care that were directly related to the student's education.

Primary source: Student Questionnaire - Items SQ12A or B (c through f), SQ42A or B (c through f).

Data adjustments: For postbaccalaureate students, average monthly expenditures for commuting, other transportation, personal expenses, and child care reported for fall, 1986, and spring, 1987, were each multiplied by 4.5 and added. The same adjustments were made to the data for students enrolled part time in the fall as were made for full-time students. If a student was enrolled in the spring, 1987, in the same school as in the fall and no spring expenditure data were reported, then reported other monthly expenses for the fall were multiplied by 9.

Treatment: Ajusted other average monthly expenditures were summed over all students who were enrolled in the fall, 1986, and spring, 1987, and for whom a tuition and fee expenditure had been reported (R18) and who had reported a positive, nonzero value in SQ9 (expenditures for books and supplies) or in any one or more of the relevant Student Questionnaire items, or if the student had reported any expenditures for food and/or housing or room and/or board. This sum was divided by the total number of students that went into the sum. Separate averages were calculated for full-time, full-year and part-time, full-year postbaccalaureate students.

Average other expenses included only students for whom attendance status (full or part time) was available.

Total expenses

Operational definition: The sum of tuition and fee expenditures, food and housing expenditures, books and supplies expenditures and all other expenses as defined above.

Primary source: Registration Record Form Item R18; Student Questionnaire Items SQ9, SQ11a, SQ11b, SQ12A or B (a through f), SQ39, SQ41a, SQ41b, SQ42A or B (a through f).

Data adjustments: Adjustments were made to the individual expenditure items as noted above prior to adding them into the sum.

Treatment: Adjusted tuition and fee expenditures, adjusted room and board payments to the school, adjusted average monthly expenses related to education for rent and food, adjusted books and supplies expenditures, and all other expenses were summed for each individual student. This sum was totalled over all students who were enrolled in the fall, 1986, and spring, 1987, and for whom a tuition and fee expenditure had been reported (R18) and who had reported a positive, nonzero value for food and/or housing or room and/or board, or books and supplies expenditures, or any of the other expenditure items. This sum was divided by the total number of students that went into the sum. Separate averages were calculated for full-time, full-year and part-time, full-year postbaccalaureate students.

Average total expenses included only students for whom attendance status (full or part time) was available.

Q. Aid Status

Assigned values: Aided
Nonaided

Operational definition: A postbaccalaureate student was designated as having any aid if he/she received any financial aid for all or part of the 1986-87 academic year. This includes any financial aid awarded to students to help meet postsecondary education expenses including fellowships/grants; tuition waivers; assistantships; and loans from any Federal, State, institutional, employer or other sources.

Primary source: Student Questionnaire SQ18, SQ49, SQ63, SQ64, SQ65, SQ66, or SQ67.

Secondary source: Financial Aid Record Form Item R35 - fall record data updated at the end of the 1986-87 Federal financial aid fiscal year, June 30, 1987. The Financial Aid Record Form as of the fall, 1986, was used for those few students whose aid records were not updated.

Data adjustment: All fall 1986 financial aid record designations of awards that were changed, corrected, or added to in the record update at the end of the fiscal year were substituted for the originally recorded fall 1986 record data. If no changes were made to a student's fall financial aid record, fall designations of awards and award amounts were assumed to reflect the entire school year.

Treatment: A student was designated as having a specific type and source of financial aid if the student indicated he/she had received a specific type of source of aid or the student indicated any amount for a specific type or source of aid on the student questionnaire or if an amount of aid was recorded for that type and source of aid on the financial aid record form.

R. Type of Aid

Assigned values:
Fellowships/grants
Tuition waivers
Assistantships
Loans

Operational definition:

Fellowships/grants: Student financial aid that does not require repayment. Includes scholarships, fellowships, benefits, and ROTC stipends, irrespective of source.

Tuition waivers: Student financial aid that waives all or part of the tuition and fees charged by the institution.

Assistantships: Student financial aid which provides part-time employment for students who need such earnings to meet all or a portion of their education expenses. Includes work-study programs subsidized in part or in full by a Federal or State agency or a postsecondary institution. Does not include off-campus, part-time work,

	on-campus work other than through a formal assistantship, or a formal work-study program.
Loans	Student financial aid which advances funds and which is evidenced by a promissory note requiring the recipient to repay the specified amount(s) under prescribed conditions. Includes only loans made through, or subsidized by, a Federal or State agency or a postsecondary institution.

Primary Source:

Fellowships/ grants	Student Questionnaire Items SQ65A1 through SQ65A4, SQ65A (total), SQ65C2a through SQ65C5.
Tuition waivers	Student Questionnaire Items SQ66 and SQ67.
Loans	Student Questionnaire Items SQ65B1 through SQ65B5, SQ65B6 (total).
Assistantships	Student Questionnaire Items SQ18, SQ19, SQ49, SQ50, SQ65C1.

Secondary source:

Fellowships/ grants	Financial Aid Record Form Items R35A1, R35A2, R35A8,R35A10, R35A12a, R35A12b, R35A13a, R35A13b, R35A13d, R35A14a, R35A14b, R35A15a, R35A15b, R35A16a, R35A16b, R35B1, R35B1a, R35B1b, R35B2, R35B3, R35B3a, R35B3b, R35B3c, R35B3d, R35B3e, R35B4, R35B7a, R35C1, R35C2, R35C5, R35C10, R35C11a, R35D1 through R35D8.
Tuition waivers	Student Financial Aid Record Form R35C4, R35C9.
Loans	Financial Aid Record Form Items R35A3, R35A5, R35A6, R35A7, R35A9a through R35A9c, R35A11, R35A12d, R35A13e, R35A14d, R35A15d, R35A16d, R35B6, R35B7b, R35C7, R35C8, R3511b.
Assistantships	Financial Aid Record Form Items R35A4, R35A15c, R35A12c, R35A13c, R35A14c, R35A15c, R35A16c, R35B5, R35C3, R35C6.

S. Source of Aid

Assigned values:
Federal
State
Institutional
Employer
Other

Operational definition:

Federal	Student financial aid whose source of origin is a Federal agency. This aid can either be provided/funded by or administered by a Federal agency. This includes, but is not limited to, U.S. Department of Education (including State Student Incentive Grants--SSIG), Department of Health and Human Services, Department of Defense, Veterans Administration, Department of Agriculture, and National Science Foundation.
State	Student financial aid whose source of origin is a State agency. This aid can either be provided/funded or administered by a State agency. Includes State Student Incentive Grants (SSIG).
Institutional	Student financial aid whose source of origin is the postsecondary institution. This aid is provided/funded by the institution.
Employer	Student financial aid whose source of origin is the business, corporation, institution, or individual by whom the student is employed. Employers include the postsecondary institution which the student attends, if the student is employed in other than an assistantship capacity or through a formal work-study program.
Other	Student financial aid that does not come from a Federal, State, institutional or employer source. This includes aid provided by corporations, unions, foundations, fraternal organizations, community organizations, and other sources.

Primary source:

Federal	Student Questionnaire Items SQ65A1, SQ65B1, SQ65B2, SQ65C1, SQ65C2a.
State	Student Questionnaire Items SQ65A2, SQ65B3, SQ65C2b.
Institutional	Student Questionnaire Items SQ65A3, SQ65B4, SQ65C2c.
Employer	Student Questionnaire Items SQ24, SQ52, SQ65A3, SQ65B4, SQ652C, SQ65C3.
Other	Student Questionnaire Items SQ65A4, SQ65B5, SQ65C5, SQ65C2d, SQ65C5.

Secondary source:

Federal	Financial Aid Record Form Items R35A1 through R35A16, R35B2 through R35B3e, excluding R35A12c, R35A13c, R35A14c, R35A15c, R35A16c; Student Questionnaire Item SQ65CA4.
State	Financial Aid Record Form Items R35B1 through R35B7.
Institutional	Financial Aid Record Form Items R35C1 through R35C11, excluding R35C9 and R35C10, R35D2.
Employer	Student Financial Aid Record Form R35C9, R35C10.
Other	Financial Aid Record Form Items R35D1 through R35D8 excluding R35D2.

T. Financial Aid Award Amounts

Operational definition: The amount of student financial aid awarded to students enrolled in a postsecondary institution in the fall of 1986 to help meet postsecondary education expenses for the 1986-87 school year.

Primary source: Student Questionnaire.

Secondary Source: Financial Aid Record Form--fall record data updated at the end of the 1986-87 Federal financial aid fiscal year, June 30, 1987. The Financial Aid Record Form, as of fall, 1986, for those few students whose records were not updated.

Data adjustment: For Financial Aid Record information, all fall, 1986, financial aid record award amounts that were changed or corrected or awards that were added by the end of the fiscal year were substituted for the originally recorded fall, 1986, award amounts. If no changes were made to a student's fall financial aid record, fall designations of award amounts were assumed to be accurate and to reflect the entire enrollment period of the individual student during the 1986-87 school year.

Treatment: An award amount recorded on the Student Questionnaire was assumed to be the most accurate source for these award amounts, even if the Financial Aid Record Form indicated a different award amount for the same source and type of

aid. The Financial Aid Record Form award amount was used only if the Student Questionnaire did not indicate a specific award amount or if the student received a GSL or Federal work-study award. Additionally, to avoid double counting award amounts, student-reported amounts for assistantships and work-study awards, and student-reported amounts for tuition waivers and institutional grants were compared with one another. If the amounts were exactly the same, e.g., if the amount of an assistantship equaled the amount for a work-study award, then only one of these values was used in the calculation of the average assistantship/work-study award amount. Similarly, if the amounts reported for tuition waivers and institutional grants were equal, only the tuition waiver value was included in the average amounts. In calculating a mean award amount, only those students for whom an award amount was available were included in the calculation. If a student indicated receipt of aid or receipt of aid by any specific type and source of aid, but did not indicate the amount awarded for that aid, the student was included in the proportions of students receiving that type or source of aid, but not in the calculation of the means for that type and source of aid. Students who stopped out were not included in the average amounts.

U. Financial Aid Combinations

Assigned values:

Type of Aid	Source of Aid
Fellowships/grants only	Federal only
Tuition waivers only	State only
Loans only	Institution only
GSL only	Employer only
Other loans only	Other only
GSL and other loans only	Federal and State only
Assistantships only	Federal and institution only
Fellowship/grants and tuition waivers only	Federal and employer only
Fellowship/grants and loans only	Federal and other only
Fellowships/grants and assistantships only	State and Institution only
Tuition waivers and loans only	State and employer only
Tuition waivers and assistantships only	Institution and employer only
	Institution and other only
	Employer and other only

Loans and assistantships only	Federal, State, institution only
Fellowships/grants, tuition waivers, and loans only	Federal, State, employer only
Fellowships/grants, loans, and assistantships only	Federal, State, other only
Tuition waivers, loans, and assistantships only	Federal, institution, employer only
Fellowships/grants, tuition waivers, loans, and assistantships	Federal, employer, other only
	State, institution, employer only
	State, institution, other only
	State, employer, other only
	Institution, employer, other only
	Federal, State, institution, employer, other only
	Federal, institution, employer, other only
	State, institution, employer other only
	Federal, State, institution, employer, other

Operational definition: A combination of types of financial aid (fellowships/grants, tuition waivers, loans, assistantships) or sources of financial aid (Federal, State, institutional, employer, other) as reported to the NPSAS.

Primary source: Student Questionnaire Items SQ18, SQ19, SQ49, SQ50, SQ65A (all), SQ65B (all), SQ65C1, SQ65C2, through SQ65C5, SQ66, SQ67.

Secondary source: Financial Aid Record Form Items R35 (all).

Data adjustments: See Data Adjustments under Financial Aid Award Amounts.

Treatment: The number of students receiving each combination of type of aid is an unduplicated number. That is, a student is counted only once in the category of combinations of types of aid which the student received. For example, a student receiving both fellowship/grant aid and loan aid, would be counted in the category of fellowship/grant and loans only and would not be counted in the separate categories of fellowship/grant only or loan only. A similar unduplicated count was developed for various combinations of sources of aid.

Combinations of types of aid were determined from one data source only. If the Student Questionnaire indicated that a student only received a fellowship/grant, the student was assigned to the fellowships/grants only category, even if the Financial Aid Record Form indicated that the student also received a loan. The one exception to this general strategy was for GSLs and Federal college work-study, for which the Financial Aid Record Form was examined. If the student had no Financial Aid Data on the Student Questionnaire, then combinations based on financial aid record data were determined. A similar strategy was followed for financial aid combinations by source of aid.

V. SOURCE OF SUPPORT

Assigned Values:
Financial aid only
Parents/relatives only
Student/spouse only
Parents/relatives and student/spouse
Financial aid and parents/relatives
Financial aid and student/spouse
Financial aid, parents/relatives, and student/spouse

Operational definition: The origin of money used by students to pay for their postbaccalaureate education expenses.

Financial aid — Any financial aid awarded to, or received by, a student to help meet postbaccalaureate education expenses, irrespective of source or type of aid.

Parents/relatives — Support provided the student by parents/guardians or relatives/friends to defray the costs of a postbaccalaureate education, including monetary contributions, loans, and "in-kind" support.

Student/spouse — Support provided by the student, spouse, or both, from their own earnings or assets to help pay the expenses of a postbaccalaureate education. Does not include financial aid or nonfinancial aid loans taken out by students.

Primary source:

Financial aid — For a complete specification of this designation, see variable - Aid Status.

Parents/relatives — Student Questionnaire Items SQ56, SQ58, SQ59, SQ60, SQ61.

Student/spouse	Student Questionnaire Items SQ54 and SQ55.
Treatment:	The number of students assigned to each category of sources of support is an unduplicated number. That is, the student is counted only once in that category of sources of support that the student received. For example, a student receiving support from parents and financial aid would be counted in the parents and financial aid category only and would not be counted in the separate parents only or financial aid only categories. A student was considered as having support from parents if any nonzero value was reported for parental/guardian contributions or loans or contributions or loans from relatives/friends, or if the student indicated a monetary value for parental "in-kind" support. A student was counted in the sources of support calculations if the student reported a nonzero value for any one of the items on the student questionnaire indicating support from some source (financial aid, parents, self/spouse) or if the student was a financial aid recipient, as reported by the financial aid office.

Appendix C: Advisors to NPSAS

1987 National Postsecondary Student Aid Study

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Sal Corrallo

Appendix D: Classification of Instructional Programs (CIP) Codes

01	Agribusiness and Agricultural Production
02	Agricultural Sciences
03	Renewable Natural Resources
04	Architecture and Environmental Design
05	Area and Ethnic Studies
06	Business and Management
0602	Accounting
0603	Banking and Finance
07	Business (Administrative Support)
0706	Secretarial and Related Programs
08	Marketing and Distribution
09	Communications
0904	Journalism (Mass Communications)
10	Communication Technologies
11	Computer and Information Sciences
1102	Computer Programming
1103	Data Processing
12	Consumer, Personal, and Miscellaneous Services
13	Education
131201	Adult and Continuing Education
131202	Elementary Education
131203	Junior High/Middle School Education
131204	Pre-Elementary Education
131205	Secondary Education
14	Engineering
1408	Civil Engineering
141001	Electrical Electronics and Communications Engineering
1419	Mechanical Engineering
15	Engineering and Engineering-Related Technologies
16	Foreign Languages
160501	German
160901	French
160905	Spanish
17	Allied Health
170605	Practical Nursing
18	Health Sciences
1803	Chiropractic
180401	Dentistry, General
181001	Medicine, General
1811	Nursing
1812	Optometry
1813	Osteopathic Medicine
1814	Pharmacy
1815	Podiatry
1824	Veterinary Medicine
19	Home Economics
20	Vocational Home Economics
220101	Law
220103	Legal Assisting
23	Letters
230401	Composition

230701	Literature, American
230801	Literature, English
24	Liberal/General Studies
25	Library and Archival Sciences
26	Life Sciences
27	Mathematics
279999	Calculus
28	Military Sciences
31	Parks and Recreation
32	Basic Skills
38	Philosophy and Religion
39	Theology
3906	Theological Studies
40	Physical Sciences
4005	Chemistry
400601	Geology
4008	Physics
41	Science Technologies
42	Psychology
43	Protective Services
44	Public Affairs
4407	Social Work
45	Social Sciences
4502	Anthropology
4506	Economics
4507	Geography
4508	History
4510	Political Science and Government
4511	Sociology
46	Construction Trades
47	Mechanics and Repairers
48	Precision Production
49	Transportation and Material Moving
50	Visual and Performing Arts
5003	Dance
5007	Fine Arts
5009	Music
*999995	Uncodeable

*not a CIP code

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